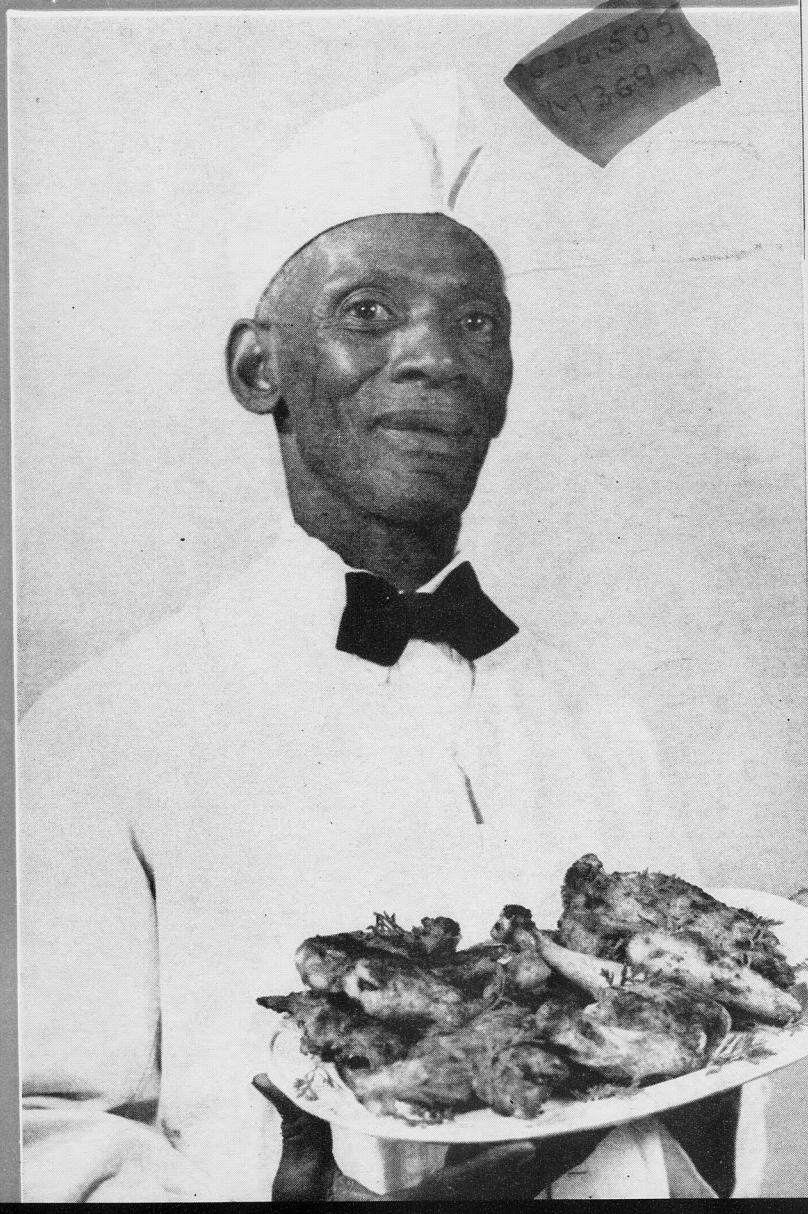
MARYLAND POULTRY YEARBOOK



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THE 1948

MARYLAND POULTRY

YEARBOOK

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Greetings

to

Maryland

Poultry

Producers

I am happy to extend greetings to the poultry producers of Maryland, numbering over 35,000. The production of eggs, raising broilers, farm chickens and turkeys are important enterprises, as shown by the fact that the gross income from the poultry industry in 1946 exceeded the gross income obtained from any other single branch of agriculture.

Everything possible should be done that will lead to stabilizing conditions in the industry to insure good returns. Of course, producers should do everything possible to improve the quality of poultry products for consumers. Cooperation between producers and distributors means a sounder industry.

I shall be glad to do whatever seems necessary to improve conditions in the poultry industry, and hope that 1948 proves to be a profitable year.

WM. PRESTON LANE
Governor of Maryland

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Greetings

to the

Poultry People

of

Maryland

During the past year, Maryland poultry producers have done a wonderful job, in spite of high feed prices and the uncertainties of the times.

The Maryland State Poultry Council is to be congratulated on taking the lead in attempting to improve conditions in the industry.

The different departments of the University of Maryland are continually carrying on various lines of work for the betterment of the industry. Research on breeding, nutrition, physiology, marketing, and diseases produce results of great value to producers. More students are enrolled in poultry courses and extension activities have increased considerably.

The University now is in the process of buying land near Salisbury for a poultry broiler experimental plot, and will erect there, as soon as funds are available, a new laboratory. It also is providing for additional research facilities at College Park. These recent developments are mentioned only as an indication to you that the University is actively engaged, at all times, in efforts to be of the greatest service to the entire industry.

H. C. BYRD, President
University of Maryland

FUL-O-PEP Helps Get High Hatches of Sturdy Chicks

Give Breeding Birds a Special "VITAMIN BOOST"... Feed Super Greens Pellets

BREEDING FLOCKS need a ration that's rich in vitamins to fortify them for high hatches and strong, livable chicks. So do as many successful poultrymen are doing and feed Ful-O-Pep Super Greens Pellets along with mash.

FUL-O-PEP Super Greens Pellets are packed with vitamin-rich sources such as Concentrated Spring Range,* Nature's Richest Vitamin Combination, to help breeders produce big, husky chicks with deep, yellow-colored shanks. These vitamin-rich pellets promote rugged and steady laying, and help you hatch a high percentage of hatching eggs. They help maintain proper feed intake for maximum egg production.

TO FORTIFY breeder birds with a high vitamin intake, to get good hatching eggs, to produce sturdy, livable chicks, to help keep breeders healthy... supplement your mash with Ful-O-Pep Super Greens Pellets.

HENS TAKE to these pellets readily. All you do is sprinkle a few Ful-O-Pep Super Greens Pellets on top of the mash according to the directions. For details write to...

The QUAKER OATS COMPANY
Chicago 4, Illinois

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Greetings

to the Poultry Producers

of Maryland

Dear Friends:

I am happy to extend greetings to the poultry producers in Maryland and to express the hope that the difficulties you have recently experienced will be overcome in the coming year. Now that poultry has reached such a high place in our agricultural economy, very careful thought should be given by all to maintaining this industry upon a stable basis in the years to come.

We are pleased with present producers in the preservation of our cooperative movement among producers, especially the broiler producers on the Eastern Shore. In my opinion, we will need active cooperation among all forces in the industry to a greater extent in the future than in the past. We must not slip back.

I also hope that we may be able to extend greater assistance to our R. O. P. breeders. I am not at all satisfied with the progress made in this important field up to this time. I think it is fundamental toward improving our industry that we give greater attention to better breeding.

While it is difficult to retain some of our leading scientists in this field, the adminstration is doing its best to cooperate with Dr. M. A. Jull and his associates in serving the industry in the state.

With kind regards, I am

T. B. SYMONS,
Dean and Director
University of Maryland

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WORLD'S LARGEST MANUFACTURER OF THERMOSTAT WAFERS

BREEDING FOR MORE EFFICIENT MEAT PRODUCTION

DR. MORLEY A. JULL, University of Maryland

The markets of today are demanding meatier type market birds, whether broilers, fryers, or roasters. Consumers are demanding better fleshed birds with rounder breasts and more meat in proportion to bone.

Producers want chickens that grow rapidly, because rapid growth means efficient utilization of feed. Under present high prices of feed, the cost of feed amounts to about 60 percent of the total costs of producing poultry meat. That's why it is so important that chickens gain weight rapidly for the feed consumed. The fewer the pounds of feed required to produce each pound of gain in broilers, the greater the profits.

Fast feathering is very desirable in broiler strains to avoid bare backs and pinfeathering at marketing time. At the University of Maryland the New Hampshires which feathered the earliest grew the fastest. Hatchery operators could soon develop fast-feathering strains for their hatchery flocks by selecting as future breeders those chicks at hatching time with seven well developed secondaries. That's the surest way of developing a fast-feathering strain. Poultry breeders and hatchery flock owners should band these chicks and keep them for future breeding work.

Go over these birds again at about five weeks and band the largest ones so that they will be kept for the next breeding season; these banded birds are the fastest growing ones. Before any cockerels are marketed, the flock owner should again go over his birds and band those with broad bodies and plump breasts; they are the ones to keep to develop a strain of meatier type birds that satisfy consumer demand.

Developing strains of breeding stock with light undercolor would have the advantage of reducing costs of dressing broilers in the dressing plants and would produce more attractively dressed birds, especially when packed in cartons with cellophane tops.

In broiler-producing strains of breeding stock, good egg production is necessary to keep the cost of hatching egg production as low as possible. The higher the production, the fewer the pounds of feed consumed per dozen eggs produced. This is very important because the cost of feed at prsent represents more than one-half of the total cost of producing eggs and chicks.

We consider it OUR DUTY

In order to maintain a half century of leadership in the feeding of poultry and livestock, Dietrich and Gambrill, Inc., must render a definitely economical and intelligent feeding service. D & G nutritionists have spent their lives in the study of poultry nutrition and also apply the findings of our best scientists in the field of poultry nutrition.

We consider it our duty to know the nutritive requirements of birds of all ages. We must know the vutritive value of all feed ingredients in order to manufacture them into scientifically balanced rations which will meet practical feeding needs.

Essential ingredients are purchased from supplies with reputable testing laboratories to guarantee protein, vitamin and mineral content. In order to double check the value of these important feed ingredients, we have access to independent laboratory facilities for making chemical and biological tests.

We consider it our duty to acquire all available scientific nutritional data, so that the findings of our research scientists can be applied to making our D & G feeds PRACTICAL FEEDS FOR PRACTICAL FEEDERS.

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D & G ALL MASH LAYER
Gambrill's CHICK STARTER
Gambrill's GROWING MASH
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Scientifically Formulated

DIETRICH & GAMBRILL, INC.

FREDERICK, MARYLAND

FEED INSPECTION AND THE FEED BUYER

L. E. BOPST, State Chemist, College Park, Md.

Everybody likes a bargin and poultrymen are no exception. Many of the articles we buy and use in every-day life are familiar enough to us in that we can judge their quality and value by sight, or touch.

Other commodities cannot be so easily judged, and poultry feeds are in this class. Appearances in this case can be very deceiving. When mixed feeds do not give the buyer the feeding value declared on the label or are otherwise misrepresented, they assuredly are not bargins at any price. It is the duty of the feed control official to correct the situation.

Enacting laws to protect feedstuffs quality, although necessary, is not enough, just as laws against committing crimes do not make policemen unnecessary.

Purposes of feed control are many and varied, but can be best summarized in the single word "service". In addition to assuring buyers that the feeds they buy are actually as guaranteed, the control official must work with the manufacturer in preparing labels that are not misleading. He must also be ever alert to investigate and stop sharp practices; and last but not least, he must be adaptable to new developments of all kinds pertinent to problems at hand.

For a better understanding of the procedure in feed control work, it may be interesting to follow a mythical sample through its customary journey.

First, a state inspector samples a shipment of "XYZ Brand Broiler Feed" at a dealer's warehouse. Cores taken from at least 20 bags are mixed, divided, and reduced to about 12 ounces. The sample is placed in a sealed container and brought to the laboratories at College Park along with many others. After a careful label examination and comparison with the license the sample is given a laboratory or working number and goes to a technician for grinding and preparation for analysis. Examination by a microscopist is made to identify the ingredients guaranteed present, and to identify any unlisted components. From different chemists come reports of the content of moisture, fat, fiber, and protein. In this imaginary case all is in order until it is found that the protein is considerably below that guaranteed. The analysis is repeated with the same result. Then it is the duty of the State Chemist to take action against the manufacturer. Since the "XYZ Brand Broiler Feed" originated in another state, federal assistance is necessary as the local dealer who bought the product in good faith should not be penalized. The inspector returns

(continued on Page 13)

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18 Washington Street, Easton

101 Main Street, Salisbury

503 York Road, Towson

to the dealer to obtain all pertinent shipping data. These data together with certified copies of the analysis information are transmitted to federal authorities for appropriate action. In any event the offending feedstuffs is immediately removed from sale. If prosecution is instituted, inspectators and chemists are called as witnesses. If the product had been manufactured in Maryland prosecution would be instituted in the state courts.

Another achievement of singular benefit to the consumer is the development of mass production in chemical analysis. The individual poultryman would find the cost of analyzing small purchases prohibitive. The typical state laboratory making many thousands of analysis annually has brought the cost to the feeder down to a very low figure. In addition, most states have provisions for feeders to submit samples of their purchases to the state laboratory for analysis. This service is either gratis or performed for a very nominal fee.

The control official has constantly worked to make the buyer quality conscious. Through publication of analytical results, and other means, the idea has been stressed that livestock and poultry are factories on legs. To them, as to any other manufacturing establishment, must be brought the proper raw materials to fabricate the finished products: milk, eggs and meat. Feed control work has given the consumer ample proof that mixed feeds made by reputable manufacturers are reliable and provide all necessary nutritional elements.

No discussion of feed control would be complete without a repudiation of the idea that poisonous or toxic ingredients are frequently found in formula feeds. All control officials receive samples of feedstuffs from users accompanied by the request to locate therein the cause of stock mortality. Almost invariably the results are negative, and the cause can be traced to faulty sanitation or disease.

The accomplishments of feed control have been by process of evolution. In recent years, for example, the control official has been the guardian of the public against over-eager manufacturers who place new feedstuff ingredients on the market before they have been fully tested.

To the poultry raiser these measures reflect nearly half a century of progressive service. The feed user can buy and use commercial feedstuffs, knowing that quality and nutritional values are constantly subjected to unbiased scruting. He is assured of a fair product at the price charged. All the control official asks of the buyer is to read the tags or labels and interpret them intelligently.

For NEW HAMPSHIRES

Write NICHOLS

of KINGSTON, N. H.

When feed savings are important, a wise choice is Nichols New Hampshires, developed for efficient, low cost production. The Nichols strain—built and improved by an intensive 10 point breeding program which emphasizes constant selection of potential breeders from the time they are hatched—is a money maker of hundreds of farms from coast to coast. It will make money for you, too, by trimming production costs and giving you more pounds of quality meat to sell—plus big, top-quality eggs at early ages that make a big hit with hatcherymen and other egg buyers.

MEASURE YOUR CHICKS BY THESE STANDARDS

Here are the 10 points that are of utmost importance in developing profitmaking chicks.

1. **Outstanding Uniformity of All Breeding Factors.**
2. **Beautiful Brown Eggs of High Interior Quality.**
3. **High Hatchability.**
4. **Abundant Vitality—High Livability.**
5. **Extremely Early Feathering.**
6. **Very Rapid Growth.**
7. **Early Sexual Maturity.**
8. **Early Large Egg Size.**
9. **Excellent Meat Quality.**
10. **Standard Type and Color.**

Nichols New Hampshires have been bred to these standards for many years. Nichols breeding program entails flock selection, pedigreeing and progeny testing with relentless selection of superior birds from thousands grown for reproduction purposes a dominant factor in the continuous improvement shown in the Nichols strain.

N.H., U.S. APPROVED—PULLORUM CLEAN

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THE MARYLAND POULTRY IMPROVEMENT PLAN

Dr. Charles R. Davis — Supervisor
Maryland Livestock Sanitary Service

The number in parenthesis after the address of the hatchery is the egg capacity of that hatchery.

An* before a name denotes a breeder hatchery.

THIS LISTING PERTAINS TO NO DISEASE OTHER THAN PULLORUM DISEASE

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MARYLAND - U.S. CERTIFIED HATCHERY — Such hatcheries must set eggs only from certified flocks.

MARYLAND - U. S. APPROVED FLOCK — To be classed as approved all birds in the flock must be approved by an official flock selecting agent as meeting the standard requirements for the breed.

MARYLAND - U. S. APPROVED HATCHERY — Such hatcheries must set eggs only from certified flocks.

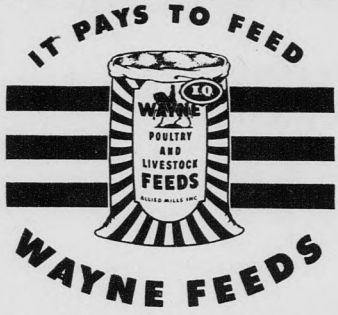
MARYLAND - U. S. PULLORUM-CLEAN FLOCK — Once a flock is Pullorum-passed, and on a subsequent test at least six months later, no reactors are found the flock is entitled to a Pullorum-Clean rating (this last test must have been within the past 12 months). A flock may obtain a Pullorum-Clean rating on 3 consecutive negative tests run 30 days apart. Also chicks from a Pullorum-Passed or Pullorum-Clean hatchery, if on the first test no reactors are found, may be classified as a Pullorum-Clean flock.

MARYLAND - U. S. PULLORUM-CLEAN HATCHERY — Such hatcheries must set eggs only from Pullorum-Clean flocks.

MARYLAND - U. S. PULLORUM-PASSED FLOCK — All birds on the premises over five months of age must have passed one negative test within the past 12 months.

MARYLAND - U. S. PULLORUM-PASSED HATCHERY — Such hatcheries must set eggs only from Pullorum-Passed or Pullorum-Clean flocks.

(Continued on Page 17)



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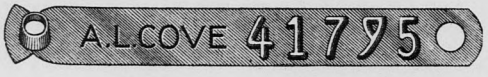

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IMPROVEMENT PLAN (Continued)

MARYLAND - U.S. R.O.P. BREEDERS

Name and Address	Breeds	Pullorum Classification
Ahmuty, Sam - Odenton	N.H.	Clean
Alexander, Jas. H. - R. 16, Box 126, Baltimore 21	S.C.W.L.	
Eckrich, W. P. - Mt. Airy	S.C.W.L.	Clean
Fiery, J. F. - Smithsburg	N.H.	Clean
Hoag's Norbeck Hatchery - Rockville	S.C.W.L. - B.P.R.	Clean
Seneca Park Poultry Farm - R. 14, Box 332, Baltimore 20	S.C.W.L.	Clean
Hillside Turkey Farm - Thurmont	White Holland (Turkeys)	Clean
Sattler, Mrs. A. W. - Monkton	Bourbon Red (Turkeys) Broad Breasted Bronze	Clean

MARYLAND-U.S. CERTIFIED, PULLORUM-CLEAN HATCHERIES

Name, Address and Hatchery Capacity		Breeds
Ahmuty's Certified Hatchery—Odenton	10,500	N.H.
Eckrich, W. P.—Mt. Airy	5,880	S.C.W.L.
Fiery's Hatchery—Smithsburg	31,000	N.H.

MARYLAND-U.S. CERTIFIED, PULLORUM-PASSED HATCHERIES

Name, Address and Hatchery Capacity		
Heiner's Hatchery—Fork	31,000	R.I.R.

MARYLAND-U.S. PULLORUM-CLEAN HATCHERIES

Name, Address and Hatchery Capacity		
Dornbush, Geo. J.—Prince Frederick	9,000	N.H.—B.P.R.—SCWL
Elder Bros.—Hyde	15,000	B.P.R.—SCWL
Hoag's Norbeck Hatchery—Rockville	40,000	N.H.—B.P.R.—SCWL
Mayne, Mehrl F.—Rockville	6,000	NH.—SCWL
Mathew's Hatchery—Salisbury	130,000	N.H.—Cross
Morris, R. C.—Trappe	96,000	N.H.—Cross
Quigely, George D.—Laurel	13,000	N.H.—SCWL
Rock Ridge Poultry Farm—Balto. 7	7,500	N.H.
Scaggs, M. E.—Rt. 1—Laurel	2,500	N.H.
Seneca Park Poultry Farm R. 14, Box 332, Baltimore 20	16,000	N.H. (Certified SCWL)
Spearin's Hatchery—Salisbury	132,000	N.H.—B.P.R.—Cross
Stevenson, I. E.—Hanover	6,000	N.H.—SCWL
Windsor, E. F.—R. 1—Annapolis	9,000	N.H.

(Continued on Page 19)

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Name, Address and Hatchery Capacity		Breeds
Beck's Hatchery—Mt. Airy	204,000	N.H.—B.P.R.—W.P.R. SCWL Cross and Turkeys
Bradley's Hatchery—Easton	450,000	N.H.—B.P.R.—Cross
Bramble Poultry Farm—Chestertown	400,000	N.H.—B.P.R.—SCWL Cross and Turkeys
Carr's Hatchery—Rockville	18,000	N.H.—B.P.R.
Cowan's Hatchery—Bowie	60,000	N.H.—B.P.R.
Cumberland Valley Hatchery—Maugansville	42,000	N.H.—W.P.R.—Cross—Turkeys
Duckworth's Hatchery—Hanover	36,000	N.H.—B.P.R.—R.I.R.
Evering's Hatchery—R. 16—Box 69—Baltimore 21	72,000	S.C.W.L.—& Turkeys
Foard's Hatchery—Rocks	132,000	—R.I.R.—Cross
Hine's Hatchery—Olney	65,000	N.H.—B.P.R.—SCWL N.H.—B.P.R.—SCWL
Jeaneva Poultry Farm—Annapolis	14,000	N.H.
Kelly, Albert F.—Sykesville	18,000	N.H.—S.C.W.L.
Knox, Geo. Edward—Finksburg	48,000	N.H.—W.P.R.—SCWL Cross and Turkeys
Manor Hatchery—Monkton—	10,500	NH.—Cross
Maryland Chick Hatchery—Frederick	135,000	N.H.—B.P.R.—SCWL W.P.R.—R.I.R.— Cross—Turkeys
Milford Hatchery—Randallstown	310,000	N.H.—B.P.R.—SCWL W.P.R.—Cross
Mt. Airy Poultry Farm—Mt. Airy	90,000	N.H.—B.P.R.—SCWL W.W.—Cross
Nock's Snow Hill Hatchery—Snow Hill	1,000,000	N.H.—B.P.R.—SCWL Cross
Rehoboth Hatchery—Rehoboth	35,000	N.H.—B.P.R.—Cross
Schildt, Edgar F.—Taneytown	30,000	N.H.—B.P.R.—SCWL
Smith, William—Hanover	36,000	N.H.—S.C.W.L.
Southern Maryland Hatchery—Aquasco	142,000	N.H.—B.P.R.—SCWL W.P.R.—Cross
Stonesifer's Hatchery—Keymar	40,000	N.H.—Turkeys
Streett's Hatchery—Rocks	100,000	N.H.—B.P.R.—SCWL Cross
Thompson, H. Geo.—Great Mills	1,800	B.P.R.—and Turkeys
Truslow Poultry Farm—Chestertown	216,000	N.H.—B.P.R.—SCWL Cross
Vandermast, George—R. 13—Essex	22,000	S.C.W.L.
Wilson's Hatchery—Rising Sun	40,000	N.H.—B.P.R.—SCWL W.P.R.—Cross and Turkeys
Winmar Hatchery—Silver Spring	20,000	N.H.—S.C.W.L.

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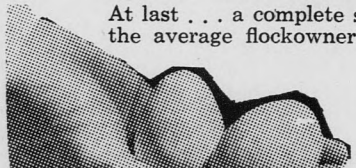

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Name, Address and Hatchery Capacity		Breeds
Armacost Poultry Farm & Hatchery—Finksburg	25,000	N.H.—Cross
Dryden's Hatcheries—Snow Hill	660,000	N.H.—Cross
Esham's Hatchery—Parsonsburg	264,000	Cross
Hastings' Hatchery—Parsonsburg	1,250,000	N.H.—Cross
Hickman's Hatchery—Bishopville	135,000	Cross
Morris Poultry Farm—Bishopville	2,350,000	N.H.—B.P.R.—Cross
Peerless Hatchery—Showell	374,000	N.H.—Cross
Small & Bull Hatchery—Pocomoke	280,000	N.H.—B.P.R.—Cross

MARYLAND-U.S. PULLORUM-PASSED HATCHERIES

Name, Address and Hatchery Capacity		Breeds
Perdue's Hatchery—Salisbury	200,000	N.H.—B.P.R.—SCWL Cross
Rock Hill Hatchery—Preston	34,000	N.H.—B.P.R.—Cross
Wilkins, J. A.—Pocomoke	130,000	Cross

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MARYLAND-U.S. APPROVED, PULLORUM-PASSED

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Davis, Wilmer Fell—Federalsburg	N.H.—B.P.R.—SCWL Cross
Merriken, L. S.—Federalsburg	N.H.—B.P.R.—Cross
Potts, Emmitt—Hillsboro	N.H.—B.P.R.—SCWL W.W.—W.P.R. White Giants, Cross

TURKEYS (only) HATCHERIES
Maryland-U.S. APPROVED, PULLORUM-CLEAN HATCHERIES

Name, Address and Hatchery Capacity		Breeds
Chewning, E. Taylor—Nutwell	5,000	Broad Breast Bronze
Hillside Turkey Farm—Thurmont	22,000	Broad Breast Bronze White Holland
Norman Turkey Farm—Charlotte Hall	30,000	Broad Breast Bronze
Rugh's Turkey Farm—Elkton	16,000	White Holland
Sattler, Mrs. A. W.—Monkton	20,000	Broad Breast Bronze Bourbon Red
Stewart, L. H.—McDaniel	18,000	Broad Breast Bronze
West Sherwood Farms—St. Michaels	28,000	Broad Breast Bronze

MARYLAND-U.S. APPROVED, PULLORUM-PASSED HATCHERIES

Name, Address and Hatchery Capacity		Breeds
Kinder, Henry—Millersville	4,000	Bronze
Roberts, Milton M.—Sparks	15,000	Broad Breasted Bronze
Schramm's Turkey Farm & Hatchery—Pasadena	8,000	Broad Breasted Bronze

1947 figures show egg yield per bird continues to rise

Monroe C. Babcock

GIVES REASONS FOR SPECTACULAR INCREASE IN EGG PRODUCTION

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The exceptional increase in egg production per bird in the last six years demonstrates this fact. Since 1940, average production per bird has risen from 134 eggs to 154 eggs per year with a corresponding rise being registered at Egg Laying Tests.

Latest figures available this year show that average production per bird is still rising.

This rise came despite feed shortages, at a time when manufactured feeds were in widest use. Most authorities agree that these feeds greatly aided the rise in egg yields.

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ECONOMIC FACTORS AFFECTING TODAY'S OUTLOOK FOR BROILERS

by Paul R. Poffenberger, Dept. of Agricultural Economics and Marketing
University of Maryland, College Park, Md.

Income from broiler production accounts for a substantial portion or the entire cash income of many farmers, particularly in concentrated areas of production. In addition, the income of many other businesses, such as dressing plants, live poultry dealers, feed dealers and hatcherymen are influenced by profitable broiler production.

The phenomenal growth of the broiler industry is well known. Its unusual expansion, however, is not unlike that of many other agricultural activities under the influence and impetus of the war. Adjustments to peace time operation have in the past, and will in the future, present problems which may make wartime problems appear relatively insignificient.

The outlook for the broiler industry is not greatly different from that of many other industries. Possibilties of domestic and world economic crises are not encouraging. Unsettled economic conditions increase many normal economic risks to hazardous proportions.

General business activity is at an all time high. Employment is at record levels, salaries and wage payments are at peacetime records.

Prices which farmers receive for their products have increased rapidly, in fact, to such an extent as to draw unwarranted criticism. Likewise, the prices which farmers have to pay for products used in farm production and for family living have risen rapidly. In many instances, the high prices paid by farmers have offset the high prices they received. Consequently, the real advantage of high farm prices has been slight to the farmer.

Condition of grain crops in the grain belt and the record prices of corn and wheat are sad news to broiler producers. The Del-Mar-Va Peninsula is a feed deficit producing area. Consequently, feed crop conditions in other parts of the country are of great importance to this area.

Predicted high prices for red meats for 1948 may mean that poultry will occupy a more prominent place in the diets of many consumers. This offers some enocuragement for broiler producers.

The export market, although it absorbs a relatively small proportion of the total agricultural production, will influence broiler prices at least indirectly. Feed grain exports will probably affect broiler producers most. If the crops are as short as now predicted and exports are large, then high feed prices are certain. The size of the export market will depend to a large degree upon the foreign aid program adopted by the Federal Government. This program will perhaps be one of the most difficult to predict, because of diplomatic and political implications involved.

Cold storage holding of the various classes of poultry must be accounted for along with current production to predict the possible supply available for the market.

Feed is the most important item of cost, of producing broilers accounting for more than ¾ of the total costs according to recent studies. Efficiency in the use of feed must be maintained if broiler production is to be profitable.

(Continued on Page 25)

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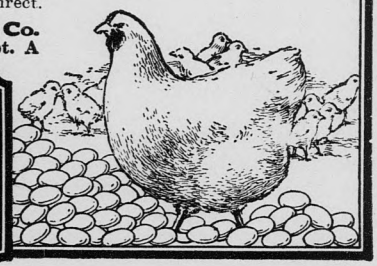

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Cost of the chicks is the second most imoprtant item of cost. The importance of good quality chicks cannot be over emphasized. To purchase inferior quality chicks because they may be a few cents cheaper is certainly false economy.

Marketing costs will vary with the different methods of selling. In any event, the producer pays that cost. Perhaps the most important single item in the marketing process affecting the income to be derived from broilers is the weight of birds at the time of sale. The price at a given weight must be evaluated against the additional cost of adding more weight for possible higher prices.

Broiler producers may, with a reasonable degree of assurance anticipate economic conditions which will necessitate operating on a narrow margin. They will need to practice every economy at their command. The broiler industry is facing that stage where fractions of cents will determine profit or loss. It must be remembered, too, that when prices in general turn downward, broiler prices will drop before feed prices and other major cost items, and also will fail proportionately further. The broiler producer, therefore, will be squeezed unduly until complete readjustment is accomplished.

Several suggestions may be of assistance to the broiler producer in preparing him for this eventuality. He must exercise good sound management, utilize feed efficiently, and last but not least important produce quality birds. Quality broilers will move readily and at top prices.

Summarizing the broiler producers will do well to watch closely the trend of the following economic factors: (1) General business activity; (2) employment; (3) consumer demand; (4) general price levels and the level of agricultural prices; (5) export market; and (6) cold storage holding of poultry. From an analysis of these factors the producer will be able to plan best his future operations.

BROILER PRODUCERS CAN SAVE FEED AND INCREASE PROFITS

1. Buy rapid-growing fast-feathering strains of chicks. Good chicks should make 1 pound of broiler on 3 to 3½ pounds of feed. There is a wide variation in broiler chicks in feed requirements.

2. Buy sexed chicks. Raising sexes separately reduces number of culls, thus utilizing feed more efficiently.

3. Do better than usual job of cleaning and disinfecting houses to control diseases. Disease is a great waster of feed.

4. Keep service men and visitors away from houses to prevent introduction of infection. One visit may be disastrous.

5. Use waste-proof hoppers. Fill not over two-thirds full. Hand feeding saves feed and labor is cheaper than feed.

6. Wage war on rats and mice. One rat in one year can eat and destroy enough feed to grow 14 broilers.

7. Seed yards to oats, rye, wheat, etc. for green feed. This will save on feed.

W. H. RICE — Poultry Department, University of Maryland

FEED SAVING HINTS FOR TURKEY PRODUCERS

1. Hatch early. Early hatched birds grow faster, thus utilizing feed more efficiently.

2. Provide ranges with good forage crops, clover, blue grass, soybeans, or green corn. When abundent, these crops may save up to 15% on feed to grow turkeys.

3. Wage war on rats and mice. Feeding one rat a year means sacrificing the feed to grow 2 eighteen pound turkeys.

4. Use waste-proof feeders, and avoid feed waste through over-filling them.

5. Keep lice and mites under control by using DDT on birds and oil on roosts. W. H. Rice, Poultry Dept., University of Maryland.

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"Who's Who in the Egg & Poultry Industries"

MEAT PLUS EGGS

by Robert C. Morris

The Morris Farm — Trappe, Md.

The Chicken of Tomorrow contest has proved valuable to the poultry industry on several counts. First, it has focused attention on the breeder and the importance of his job. Second, it has shown how much remains yet to be done.

It is generally accepted that great strides have been made in feeding and nutrition in the past few years — we feed our chickens better than we feed our children. Management practices, after years of trial and error, have become fairly well standardized; the broiler grower and egg producer have established systems of management which can be counted on to give pretty satisfactory results year in and year out.

But no matter how efficient feed and management become they can not add one egg or one ounce of meat to a bird beyond its INHERITED ability to produce these products. Therefore, the breeder must be keep pace with advances in the other fields if maximum improvement is to be realized. And Nature, through her complex laws, has handed the breeder the toughest job in the poultry field.

Today we have in the broiler areas an interesting and difficult problem. There are two or three strains of New Hampshires which give outstanding results in the broiler house — 3 pound averages in 11 weeks are not uncommon. Broiler-chick hatcheries would much prefer to hatch eggs from these strains entirely. But there are not enough of these eggs available. Why?

The answer is that these excellent meat-type strains do not lay quite as well as some of the higher production strains of New Hampshire or Rhode Island Reds. Naturally the hatching egg producer wants to carry birds on his farm that are good layers. He dosen't particularly care if these good layers can't produce the best broiler chick; eggs are his business. The hatcheryman, therefore, if he wants the meat-type hatching egg must pay more per dozen if he wants to induce his supply flocks to carry the meat-type strains.

This means he must charge a cent or two more for his chicks. The better broiler growers may not kick too much at the higher price — they know the results will more than pay for the extra cost. But competition being what it is the hatcheryman often finds it difficult to make these higher priced eggs pay off. Besides the whole process seems economically wasteful.

Now all the progress in nutrition and feeding can't lick this particular problem. It is a job strictly in the hands of the breeder. It is possible to breed really high egg production into the meat strains and still not lose their outstanding meat producing ability.

The answer is probably yes. But a tremendous amount of work remains to be done. The final solution may lie in some breed or strain or combination as yet unknown. The breeder will continue to apply himself to the problem because its satisfactory solution will mean savings of millions of dollars annually to the poultry industry.

OUR POLICY FOR THE FUTURE

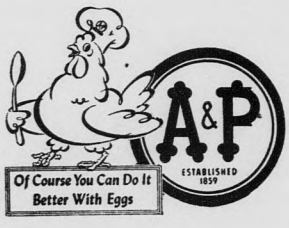
To help improve tomorrow's poultry and egg market, A&P is concentrating on a progressive program which includes:

1. Co-operation with producers and processors to develop high-quality products. One of many typical projects is the "Chicken of Tomorrow" program, to breed finer, meatier chickens . . . and thus broaden demand, lower poultrymen's cost of production.

2. Large-scale advertising in newspapers, magazines, radio . . . to encourage wider use of poultry and eggs. In more than five thousand A&P retail stores, attention-getting displays and posters push sales to consumers.

3. Quality assurance to millions of A&P customers . . . through Freshness Control and time-saving transportation.

A&P's ability to satisfy its millions of customers in thousands of retail stores has been dependent on the high-quality standards of progressive producers. Future success in the industry depends on the continuance of this constructive co-operation in the production and distribution of fine-quality poultry and eggs.



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PRODUCING QUALITY BROILERS

Harry H. Rieck — Preston, Md.

To produce quality broilers, sanitary management is of first importance. The best chickens and the best feed available without proper sanitation practices are responsible for broiler growing at a loss. This sanitation should begin before baby chicks are housed. The building should be thoroughly disinfected and sterilized. A week or ten days should be allowed for sunning and airing of buildings before the chicks arrive.

After the chickens are housed, avoid spilling water or causing damp conditions to prevail in the houses. A moist condition is always conducive to spreading disease, especially during the Coccidiosis period at 3 to 7 weeks of age. Avoid chickens getting their feet in drinking utensils or fountains. In this way water is scattered through the litter causing dampness.

Wash fountains daily and keep filthy litter out of them. In hot weather drinking utensils should be washed 2 or 3 times a day. The same sanitation principles also are necessary with feeders. Many producers do not realize how important it is to prevent chickens from dragging filthy litter over open hoppers. Never fill feeders too full so that chickens can scratch feed out of the hoppers. When this occurs the producer is in for more trouble, especially if you have a damp and sloppy floor.

The filthy litter should be removed at least around spots where feeders are placed. It is of the utmost importance to keep chickens in good appetite. With filthy surroundings and filth covered feeders, this is almost an impossibility. The covered feeder offers the best opportunity to prevent disease troubles, especially if they have hinged doors so that the feed can be withheld at times. This will sharpen the appetite of the birds, causing them to relish the feed when they have access to it.

Another important management practice to be observed is that chickens have an abundance of clean water. Grit of the proper size is necessary to promote digestion and proper assimilation of feed nutrients. In fact, many successful poultrymen claim that grit of sufficient size and quanity is a preventative of gizzard erosion. It also promotes general health.

Good management requires that chickens are always in good appetite. This is a cardinal essential to quality broiler production. If there is a loss of appetite, efforts should be made immediately to determine the cause. A good feeder knows immediately when his chickens are not eating well. When this occurs, he also knows he is heading for trouble. The producer should proceed at once to correct this loss of appetite. This is where the covered feeder offers a real service since it can be closed several hours to allow chickens to get hungry. Other types of feeders should be removed for a sufficient length of time to allow the birds to develop an appetite. During Coccidiosis and when respiratory diseases are prevalent, withholding feed to create appetites is especially helpful. Chickens that maintain a good appetite very seldom give the grower much trouble and are profitable. Chickens with low feed consumption and loss of appetite as a general rule are unprofitable, even with a good market.

There are many angles to sanitation other than the above specific problems enumerated. Every grower, hoping that Lady Luck will shine upon him, without proper santitation is just kidding himself. Sooner or later disaster will overtake him. Sanitation is absolutely the only way to acquire success for quality broiler production, assuming of course, quality chicks and good feed are used.

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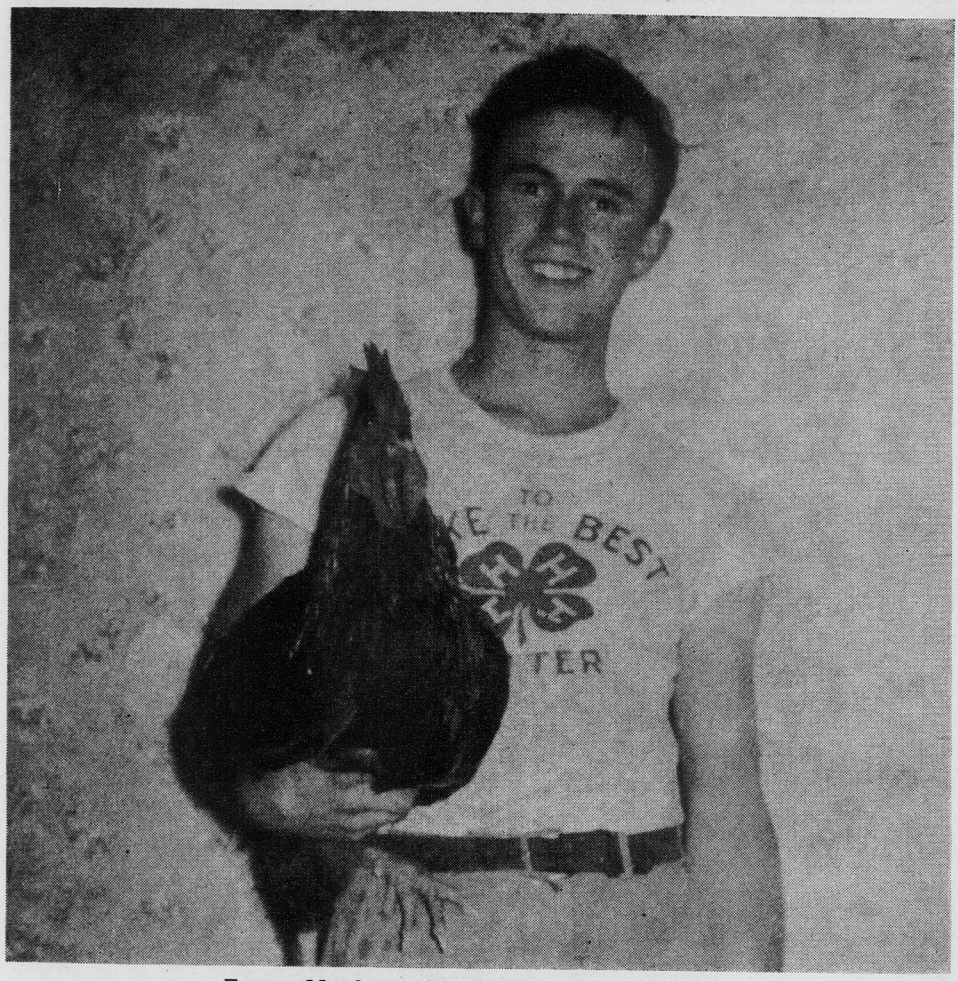
MARYLAND 4-H POULTRY CHAMPION — 1947



Eugene Matthews, Oakland, Garrett County, Md.

Eugene Matthews of Garrett County, Maryland, has been selected as the champion 4-H Club member for 1947. Eugene is now 20 years of age. He was out of high school for several years but has now returned to complete his work and will graduate next spring.

His work has been confined to the production of 700 to 800 birds per year. He owns and operates his own hatchery, has carried on an intensive breeding and selection program of white leghorns.

In addition to the work of a poultry club member, Eugene is serving as the leader of the Underwood 4-H Club. This club now has a total of 16 active members and they carry on a number of community activities in addition to their regular 4-H Club projects, all of which are of a high standard.

The three years of poultry club work has grossed Eugene more than $6,000.
He has also been enrolled in the dairy project and has done some dairy cattle judging.

He is rendering community service as president of the Young Peoples Society of his church and serving as associate superintendent of Sunday School. He also holds an office in the Oakland chapter of the F.F.A.

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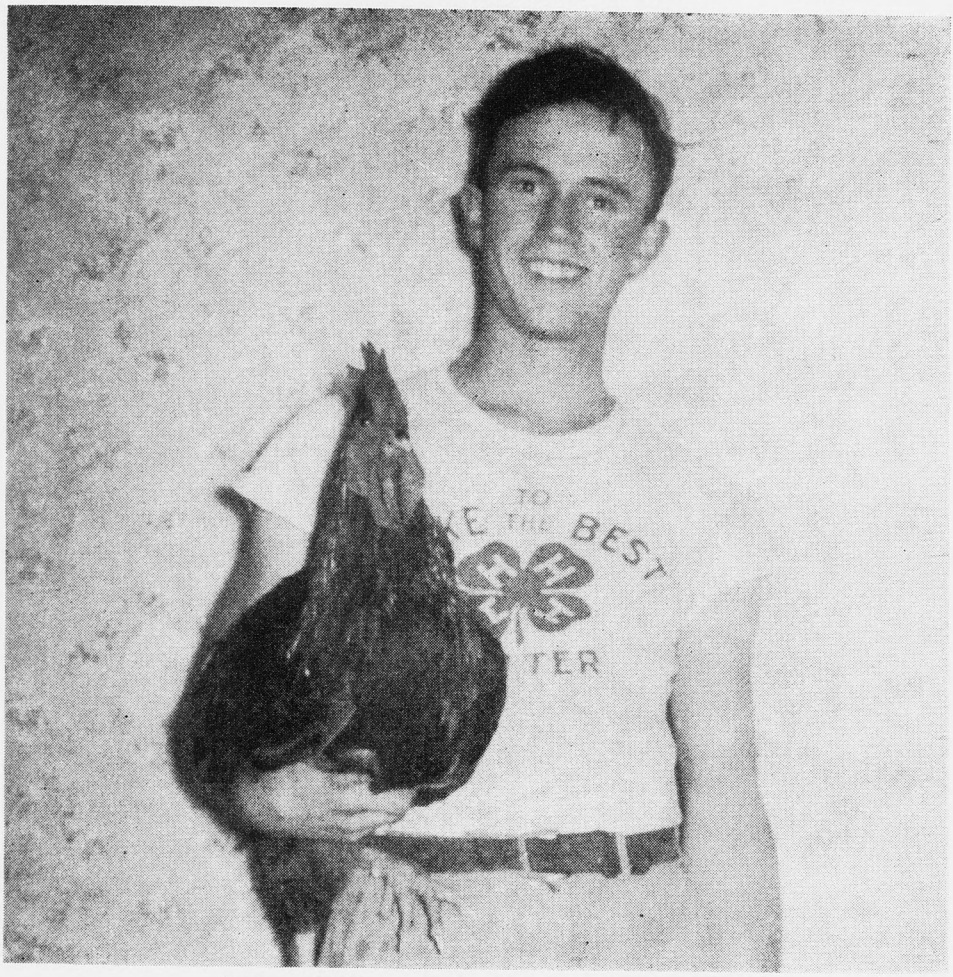

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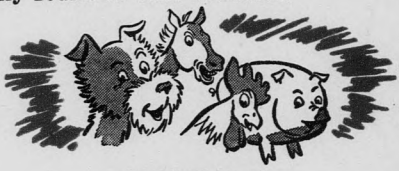

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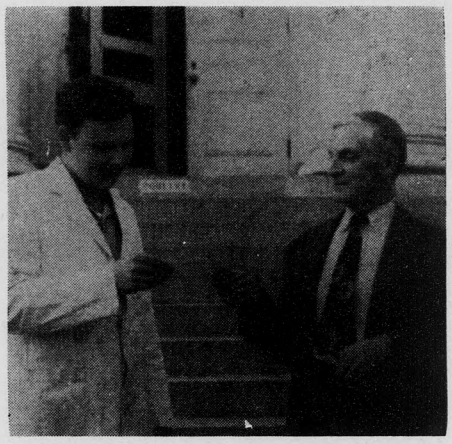
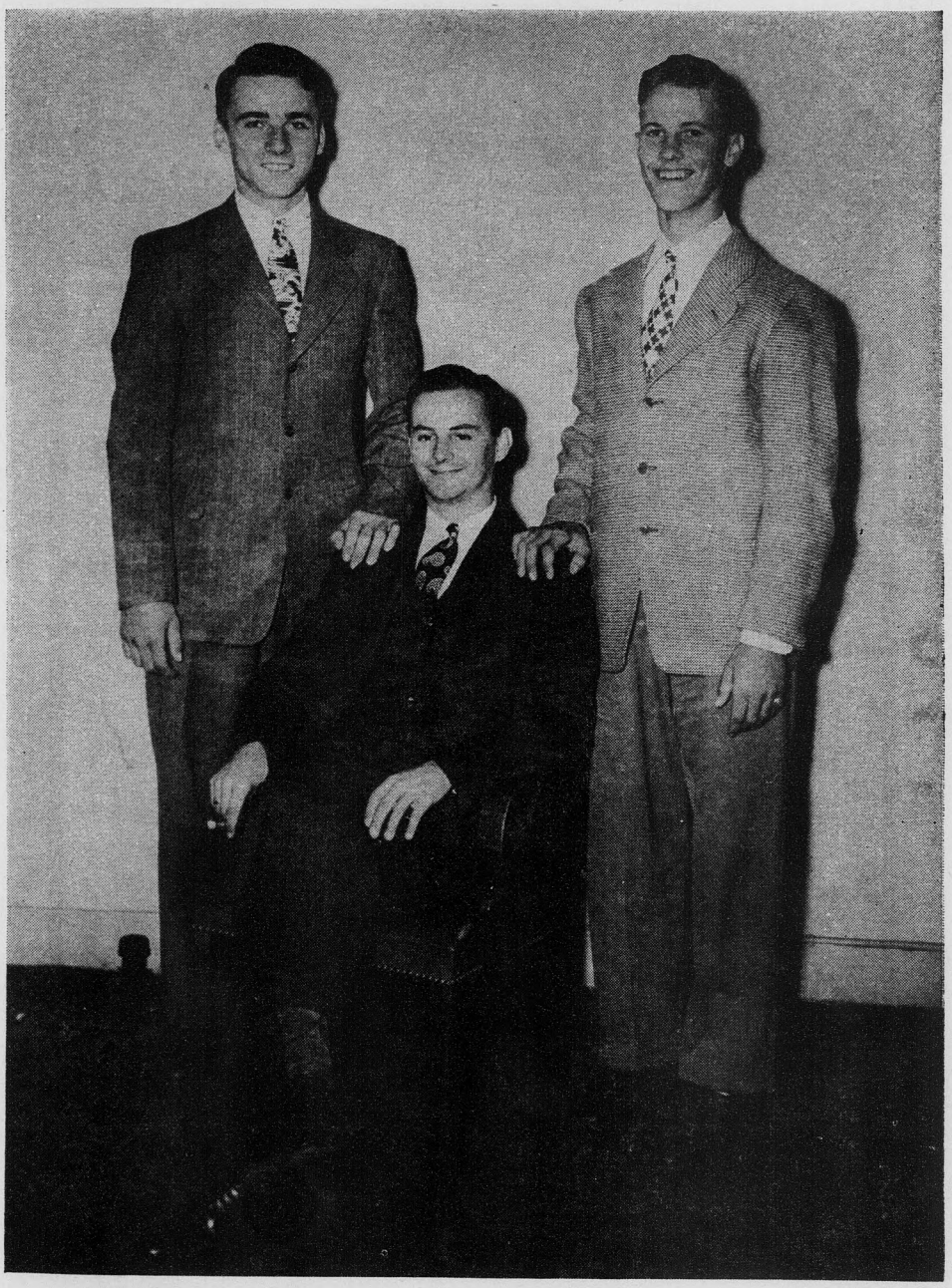
Maryland Student Wins Council Scholarship



Mr. George J. Mountney (left) student in his junior year at the University of Maryland, is being presented by Dr. Morley A. Jull, Head of the Poultry Department, with a check for $200.00 made available by the Maryland State Poultry Council. The Council has established an annual $200 scholarship to be awarded a native Maryland student doing outstanding work in his junior year, specializing in poultry.

MARYLAND CHAMPION F.F.A. TEAM



Maryland's F.F.A. Poultry Judging Team won first place by a substantial margin in the North Atlantic Regional Contest held at the Eastern States Exposition, Springfield, Massachusetts. This team was composed of Warren Burr and Thomas Meredith, vocational agricultural students at the Cordova High School, Talbot County. Warren Burr was the highest scoring individual in the contest. The team was coached by Glenn Lewis, Agricultural Teacher in Talbot County.

for extra values at no extra cost—

CURBAY B-G

(dried fermentation solubles)

A low-cost alcohol fermentation product. Contains vitamins of the B-G complex *plus* riboflavin, pantothenic acid, biotin, nicotinic acid, vitamin B_6, and choline.

SPECIAL LIQUID CURBAY

(condensed molasses distillers' solubles)

This concentrate, derived from yeast-fermentation of blackstrap molasses, does an outstanding job in hog and dairy rations. Contains all vitamins and minerals normally found in cane molasses.

U.S.I. Brand

RIBOFLAVIN MIXTURE No. 1

(one gram per ounce)

Obtained from vegetative fermentation. this concentrate contains one gram of active riboflavin per ounce, natural carriers, important B complex vitamins.

U.S.I. Brand

RIBOFLAVIN CONCENTRATE No. 85

(85% grade riboflavin)

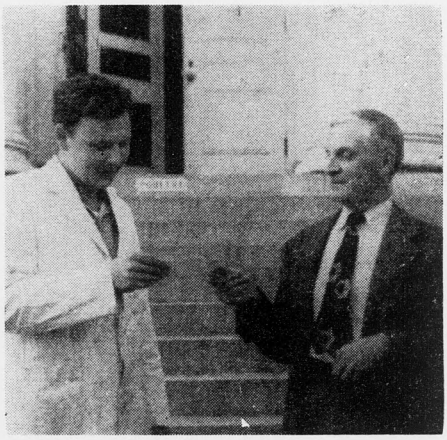
This natural product, obtained from a vegetative fermentation, consists of 85 parts per hundred of active riboflavin, with a natural carrier and a new vitamin of the B complex.

And a new feedstuff ingredient — methionine! Write today on your letterhead for the story on its uses in nutrition.

For further information, write to Special Products Sales, Department M, U. S. INDUSTRIAL CHEMICALS INC., 60 East 42nd St., New York 17, N. Y.

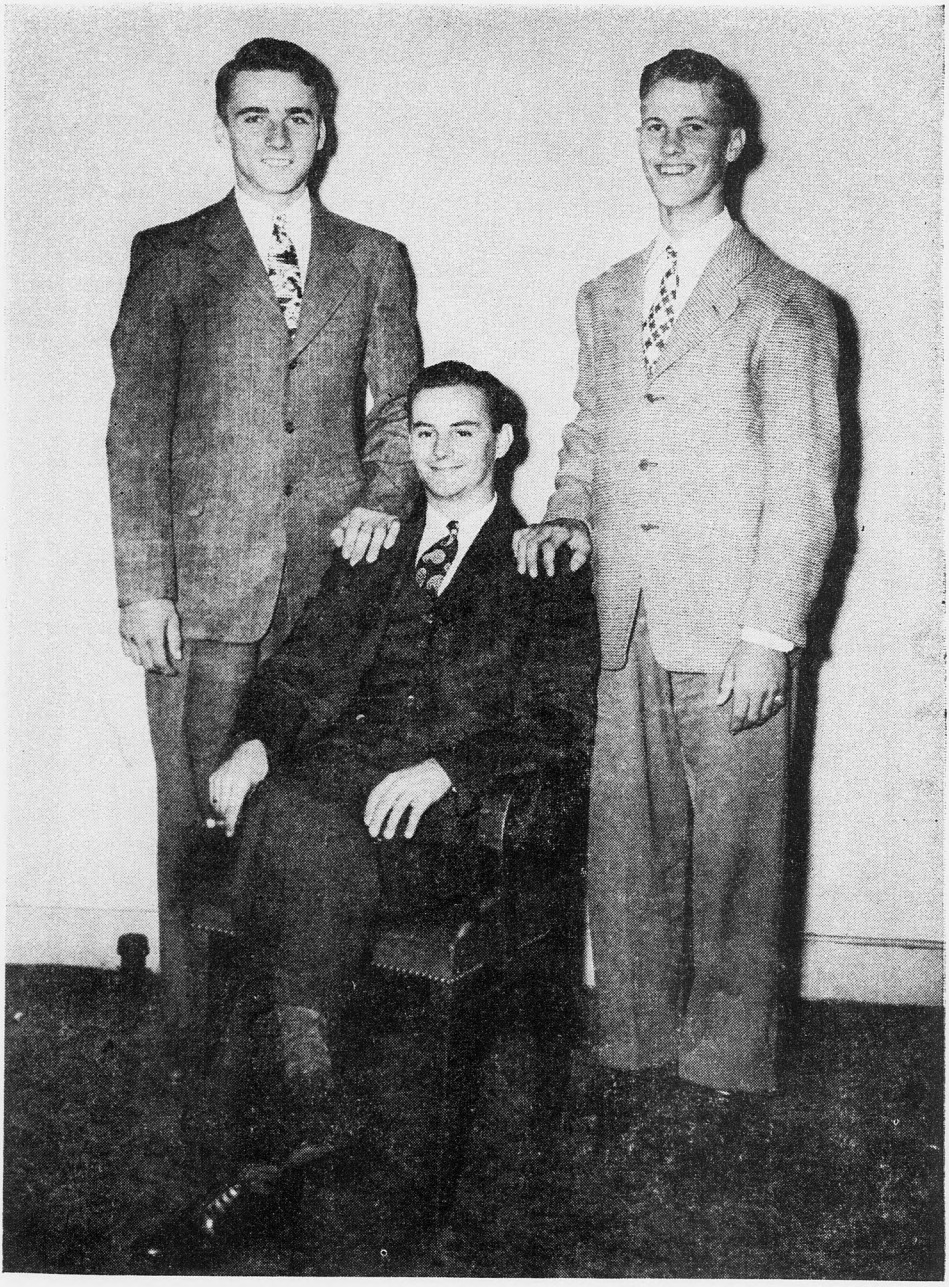
U. S. I INDUSTRIAL CHEMICALS, INC.

Maryland Student Wins Council Scholarship



Mr. George J. Mountney (left) student in his junior year at the University of Maryland, is being presented by Dr. Morley A. Jull, Head of the Poultry Department, with a check for $200.00 made available by the Maryland State Poultry Council. The Council has established an annual $200 scholarship to be awarded a native Maryland student doing outstanding work in his junior year, specializing in poultry.

MARYLAND CHAMPION F.F.A. TEAM



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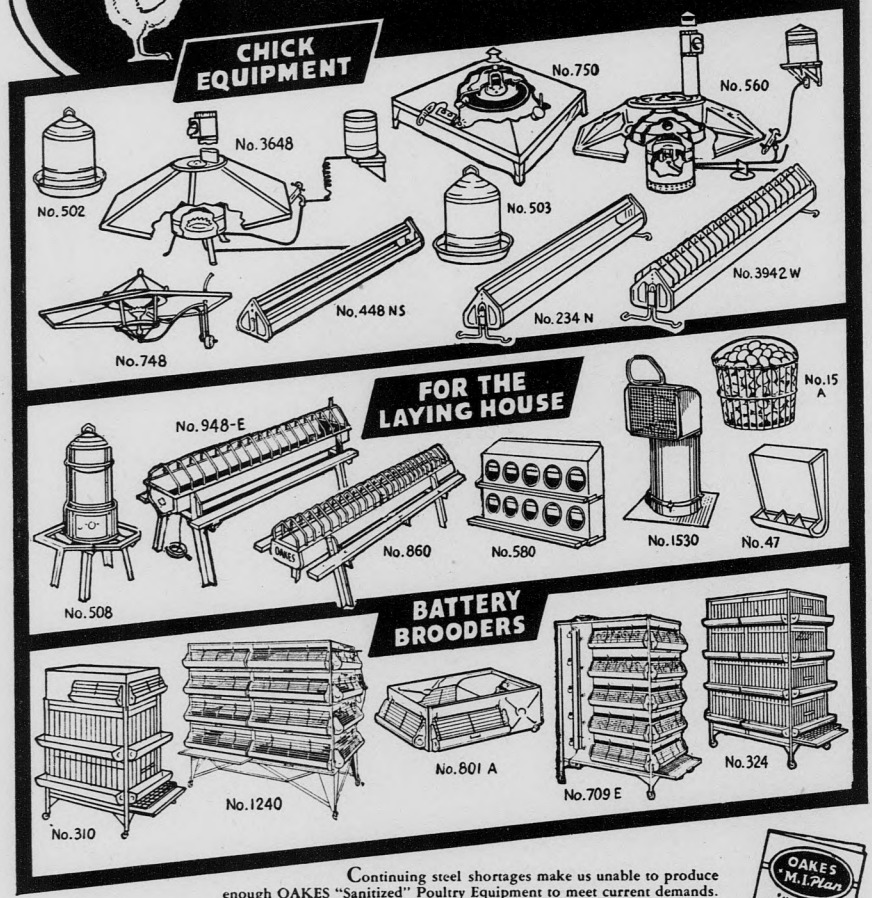
The OAKES Line is Complete

OAKES M.I. Plan is Practical ... and Profitable



Continuing steel shortages make us unable to produce enough OAKES "Sanitized" Poultry Equipment to meet current demands.

The OAKES M. I. Plan has been proven both practical and profitable by thousands of poultrymen who follow it. More rapid chick growth, reduced mortality, increased egg production and prevention of expensive feed waste insures increased profit.

When dealers recommend the M. I. Plan they build sales for themselves and help users insure greater profits. There is a jobber near you. See him or write direct for literature.

THE OAKES MFG. CO. **TIPTON, INDIANA**

OAKES "Sanitized" POULTRY EQUIPMENT

FEED SUPPLY OUTLOOK DARK

P. W. CHICHESTER, Director, American Feed Manufactuers Ass'n.

Frederick, Md.

The 1947 College Feed Survey Committee at the Feed Industry Council Meeting in Chicago, in October, reported total concentrate feeds available for feed and carry-over at 117,589,000 tons, or about 2% below the supplies for the year ending October 1, 1947. These estimates include all grains, mill feeds and protein concentrates as per U.S.D.A. reports, as of October 1st this year.

Despite a 1947 U.S. wheat crop approximately 21% greater than 1946, an indicated 1947 corn crop 26% below 1946 and a 1947 soybean crop about 8% below that of 1946 is in prospect, according to U.S.D.A. estimates. Increased supplies of barley, rye, buckwheat and flaxseed over the 1946 crops, are not sufficient to offset the pending short corn supplies.

The committee estimates a 5% reduction in pork supplies, due to a smaller Fall pig crop and marketing of lighter weight hogs under the short corn crop. However, close culling of dairy herds and marketing of range and short-fed beef cattle are expected to maintain beef supplies at, or near the level of supplies during 1947. Lamb and mutton supplies are also expected to be less than in 1947, since fewer lambs are being fed and fewer breeding ewes are on the ranges of the West.

Potential layers on farms, as of October 1st, were slightly higher than the previous year, but heavy liquidation of flocks in feed deficit areas is expected to reduce these by January 1, 1948 to, or below the figures of the previous year. Until Government stocks of dried and frozen eggs are disposed of, egg-fed ratios cannot be expected to improve.

Poultry meat in storage is in heavy supply and the present outlook for turkey and broiler producers is not too rosy.

Since the Government is almost certain to issue a set-aside order to aid Communist threatened Europe, and for carry-over supplies, it is evident that farmers and poultrymen face the prospect of higher prices and shorter supplies of feedstuffs than in 1947. In fact, it is quite probable that feed shortages in many heavy feeding areas in the Eastern states may equal or exceed any shortages we experienced during the war years.

With these prospects in view, farmers and poultrymen should, 1. plan to keep a back-log of feed supplies on hand for immediate future needs; 2. cull all herds and flocks closely and feed only efficient animals and birds; 3. Plan future operations on the basis of assurance of adequate feed supplies to complete the feeding period.

Lime the Poultry House Litter — Poultrymen who have used lime in litter claim it is cheaper than cleaning, especially with a short labor supply. Hydrated lime (not pulverized quick lime) is best, and litter should be at least 4 inches deep. The Washington Experiment Station reports that one pound of hydrated lime to five square feet of litter area will extend the interval between cleanings from 1 to 2 weeks during wet weather. When the birds are unable to move the litter by scratching, another liming is needed. Stirring occasionally with a potato rake or fork is helpful in keeping the litter from matting down.

Westminster Cooperative Poultry Products Auction, Incorporated

GEORGE C. BROWN, Manager

AUCTIONS

EGGS — MON., THUR. 1:30

POULTRY — TUES. 11:30

A Cooperative Poultry Products Marketing Service

Owned and Operated by Poultrymen for Poultrymen

"Quality Eggs Our Speciality"

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GOOD WILL . . .

Good will has body and substance, it is born of hard work and nurtured by good work, it is skill and responsibility, service and cooperation.

You can't take good will for granted — like bread, you earn it.

For more than 25 years Christie Poultry Farms, Inc. have been building good will by breeding superior birds which have been profitable to the thousands of customers.

We will make every effort to merit your good will in the future by serving better than ever and by giving our customers a little more than we promise them.

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NEW HAMPSHIRES — **BARRED ROCKS**

100% U.S. — N.H. Approved & Pullorum Clean

Chicks Shipped by Express — Parcel Post — Airfreight

PULLORUM CLEAN

CHRISTIE POULTRY FARMS, INC. KINGSTON, N.H.

PREVENTING EGG EATING AMONG LAYERS

Quite frequently the University of Maryland Poultry Department receives letters from flock owners asking how to prevent hens from eating their eggs. Dr. Morley A. Jull points out that once this bad habit gets started in a flock it is hard to stop. Like many other troubles, **prevention** is better than **cure.** Laying houses equipped with dark nests, which the hens enter from the rear is the best preventive. Use a long open trough for the nest with plenty of straw or other soft nesting material rather than square boxes. The layers are less liable to pile up in the nests and break the eggs. Put a door along the front of the nests, but keep it closed except when gathering eggs. Darkened nests keep the hens from breaking and eating their eggs.

NEWCASTLE DISEASE VACCINES

A. L. BRUECKNER, Director Maryland Live Stock Sanitary Service

Newcastle disease of fowls, caused by a virus, has been known to exist in other parts of the world prior to its introduction into this country. When a new poultry disease was seen and studied in California, it was soon determined that it was caused by a virus. Because of the more or less constant symptoms of respiratory and central nervous system disturbances, the California workers named the disease Pneumoencephalitis. Within a period of several years a disease diagnosed as Newcastle disease was discovered on the eastern Seaboard in New Jersey. It was not long until definite proof was forthcoming that the California disease was also Newcastle disease.

The symptoms of respiratory trouble (such as wheezing and sneezing with discharges from the nostrils and mouth) and of nervous disturbances (such as incoordination, twisting of the head and neck, drooping of wings with paralysis, and paralysis of the legs) are similar to those seen in other countries. The condition has not been as serious in the United States as in foreign countries, as the mortality rate here has been rarely as high as 50 per cent, but almost always close to 100 per cent elsewhere.

Extensive research studies were soon under way in a number of states, to determine ways and means of control and eradication of the disease. Despite efforts at prevention of spread, within a few years the malady was recognized in all parts of the country. It was noted early in studies of the disease that the birds which recovered from the malady developed resistance to another attack. This observation was an indication that vaccination might be helpful in prevention, control, and eradication.

The first studies were made with vaccines prepared by treating the virus with varying degrees of heat, with many chemicals, and with light rays. These products, in general, are classified as killed virus vaccines. The degree of resistance or the immunity produced was not of high order and lasted for a very short time. Another class of vaccines is known as modified virus vaccines. These contain the virus in living form but with properties changed by the method of growing or propagation. This change may be accomplished by cultivating the virus in another species of fowl, in embryos of several species of fowl, or in a species of animal.

In experiments conducted by Major R. L. Reagan and his assistants at the Live Stock Sanitary Service Laboratory at the University of Maryland, it has been possible to adapt Newcastle virus to Syrian hamsters. These are small experiment animals which have been uesd in the United States only in recent

(Continued on page 41)

GOOD CHICKS FROM WELL BREEDERS

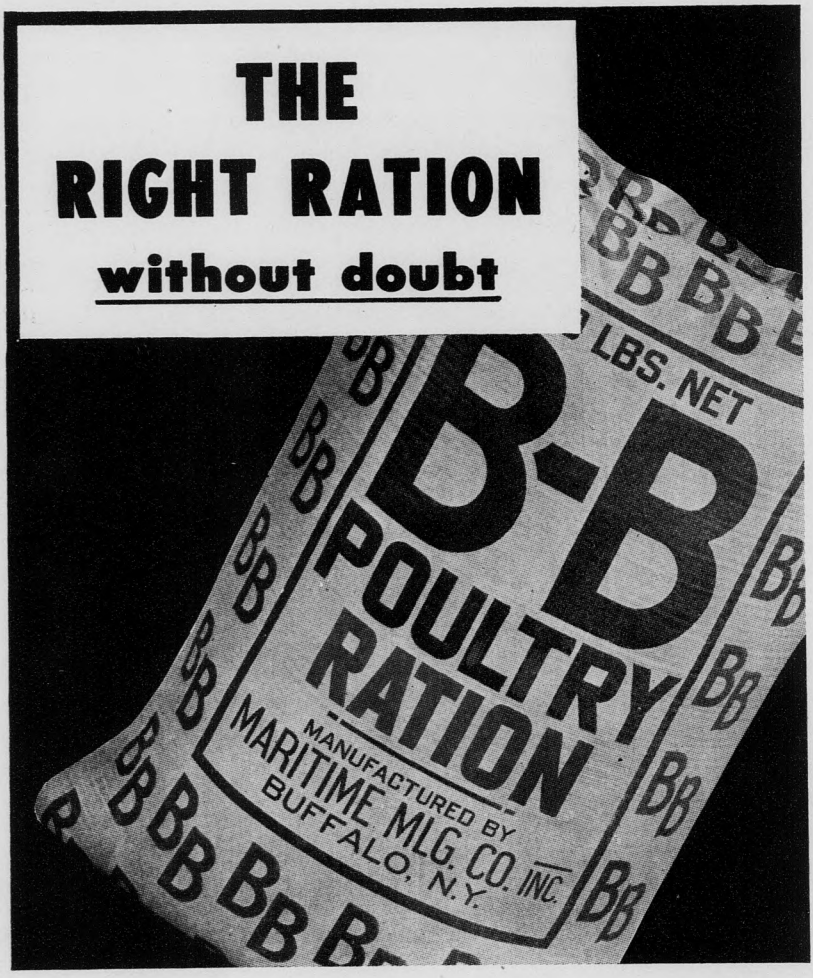
Maryland-U.S. Approved Pullorum Passed
Officially Bloodtested By The Tube Agglutination Method

**Barred Rocks, White Rocks, New Hampshires,
R. I. Reds, White Leghorns and Crosses**

—WRITE FOR CATALOGUE AND PRICES—

MARYLAND CHICK HATCHERY. INC.

100 West South St. Phone 439 Frederick, Md.



years. The procedure has consisted of the injection of the virus into the brains of young animals. From the first trials it was evident that a disease was set up. After the first passage it was only necessary to take brain material from the sick hamsters and inject it into the brains of other hamsters. This procedure has now been carried out for about 150 such passages.

It was expected that the change of the virus from fowls to animals produce changes in the virus, particularly in regard to disease-producing power in fowls. Consequently, after a series of passages in hamsters, brain suspensions were injected into chickens. Eary trials indicated that the pathogenicity was reduced and that surviving chickens were immue to Newcastle disease at a later date.

A number of trials have now been completed in the laboratory. These were conducted by injecting groups of young chickens with varying amounts of the hamster-brain vaccine. These birds were then kept in isolation with a number of normal susceptible birds, these latter being used to check on whether or not any disease caused by the vaccine would spread. After approximately thirty days the vaccinated birds, the room controls which had been with them, and normal susceptible birds which had never been exposed were challenged to Newcastle disease by the injection of the virus.

In early trials some of the young birds injected with the vaccine showed symptoms similiar to Newcastle disease about a week after vaccination. In no instance did any of the room controls show evidence of the disease, indicating that the virus was so changed that it did not spread by contact.

In all experiments with the hamster brain vaccine, more than 90 per cent of the injected birds withstood challenge by injection of Newcastle virus, which caused death in more than 95 per cent of the susceptible control chickens. In one experiment some of the vaccinated birds were exposed to chickens sick with Newcastle disease, and none of these showed any evidence of the disease.

Field experiments have also been conducted by members of the staff. Most of these trials have been conducted in the broiler-producing area of the lower Eastern Shore. It will be realized that is is difficult to place a value on field trails, since it is frequently impossible to make arrangements to have untreated chickens as controls, and it is therefore difficult to know how much exposure there has been. Should the use of the vaccine under field conditions be uniformly accomanied by absence of the disease, it would certainly be concluded that favorable results had been secured. Experiments are being continued in the laboratory and in the field, in the hope that the vaccines will prove of value to the poultry industry in Maryland and elsewhere.

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MULTI-VITA FEEDS

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MULTI-VITA BREWERS DRIED YEAST

Rich in Vitamins

Especially Recommended For Poultry Feeding

Analysis: Protein not less than 45%; Fat, not less than 0.5%; Fiber, not more than 1%; Riboflavin, 14 milligrams per lb; Thiamine, 35 milligrams per lb; Niacin, 200 Milligrams per lb.; moisture, not more than 8%.

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MARKETING MARYLAND PRODUCED BROILERS THROUGH QUICK FROZEN EVISCERATED SOURCES

by T. H. RAMSAY — Pocomoke, Md.

From a marketing standpoint the recent development of the Eviscerating Program is of tremendous importance to the producers of Commercial Broilers on the Eastern Shore. All poultry marketed, whether sold to a live buyer or a Dresser, has to be eviscerated by someone before it is ready for the table. It is, therefore, sound reasoning to expect a considerable increase in th amount of Broilers that will find their way to Eviscerating Plants, where with proper equipment and trained labor they can be processed cheaper than in the butcher shop. To that advantage can be added the benefits of U. S. Government inspection as to wholesomeness and sanitation and the protection of the consumer as to receiving actual weight to the ounce or half-ounce of the chicken he pays for. Economies are also gained as to weights transported and storage space required.

The final payoff of the Commercial Broiler Deal is the marketing of the finished product. When the total production is below the amount needed by the consumer, there are no marketing problems, as prices are favorable. Almost without exception such periods encourage growers to increase their production and a few months later there is an oversupply. Except for the Eviscerators, the market then is dependent upon receivers who only handle fresh poultry. Thus the results can only be lower values to the point that, because of price, the amount consumed is stepped up or that values are so low that poultry is attractive to speculators for storage purposes. The increasing amount of poultry handled by the eviscerators helps level off such distress periods. Quick frozen eviscerated poultry does not have to be sold the day that it arrives on the market. It can be distributed over a much greater territory than is possible with the fresh ice packed. The new consumers thus reached greatly expand the demand for Broilers and help maintain a more even outlet for the production of the growers.

During 1947 several additional plants installed eviscerating facilities. Their requirements were small compared with the total amounts of poultry produced. They did, however, relieve the fresh market of many millions of pounds. To what extent these operations increased the returns to the Broiler producer would be hard to estimate in dollars.

Summarizing the advantages of the Marketing of Maryland Broilers Through Quick Frozen Eviscerated Sources:

1. More economical from labor, freight and warehousing standpoint.
2. Guaranteed quality through U. S. Government inspection for wholesomeness and sanitation.
3. Accurate net weights of product paid by consumer.
4. Increased area of distribution as compared with fresh ice packed poultry.
5. The processing at the source of supply of a considerable tonnage, which relieves the burden on the regular fresh market and thus stabilizes the day to day values.

HELPS CHICKS GROW FASTER

Dr. Salsbury's REN-O-SAL

Drinking Water Medicine

Gives Chicks *FASTER* GROWTH . . .
***QUICKER* MATURITY**
. . . *EARLIER* EGG PRODUCTION

As Test-Proved, Using Customary Feeds

Help chicks to a *good start* with Dr. Salsbury's Ren-O-Sal in the drinking water. Two Ren-O-Sal tablets to the gallon provides these tonic benefits . . . helps them *grow faster, mature quicker* and reach the *laying house sooner!*

Thousands of poultry raisers *praise* Ren-O-Sal's tonic *benefits.* . . . Easy to use. Just drop handy tablets into the drinking water—*mix thoroughly. Economical. Safe* in any waterer—even metal.

Prevents Spread of Cecal Coccidiosis

Dr. Salsbury's Ren-O-Sal, in 8 tablet-per-gallon doses, *prevents* the spread of *cecal (bloody) coccidiosis.* Give chicks this treatment upon the *first sign* (bloody droppings) of an outbreak. *Reduced losses* in many thousands of flocks. Remember . . . Dr. Salsbury's Ren-O-Sal, in two - tablet - per - gallon doses for *faster growth*; 8 tablets-per-gallon to *prevent* the spread of *cecal (bloody) coccidiosis.* Buy Ren-O-Sal at hatcheries, drug, feed, other stores.

OTHER HELPFUL DR. SALSBURY PRODUCTS

- DR. SALSBURY'S PAR-O-SAN: popular, *pleasant* poultry house disinfectant.
- DR. SALSBURY'S AVI-TAB: popular, *poultry* tonic for birds that need a "lift."
- DR. SALSBURY'S AVI-TON: *flock treatment,* to remove large round and cecal worms.
- DR. SALSBURY'S CAN-PHO-SAL: popular poultry spray, inhalant and nasal wash.
- DR. SALSBURY'S ROTA-CAPS: *individual treatment,* to remove large round and intestinal capillaria worms.
- DR. SALSBURY'S NIC-SAL: *kills lice* without handling hens.

DR. SALSBURY'S LABORATORIES
Charles City, Iowa
A Nation-wide Poultry Service

MEMBER Dr. Salsbury's NATION-WIDE POULTRY SERVICE

This Emblem Identifies Dr. Salsbury Dealers

1. *Stimulates* GROWTH... 2. *Prevents* CECAL COCCIDIOSIS

AN IDEAL HATCHERY-FLOCKOWNER SETUP AND OPERATION

C. R. HOLLAND — Frederick, Md.

Lets assume that this particular layout has six 12 x 14 brooding units, with a separate range to each unit. The units will accommodate 300 Baby Chicks each. Placed on a well sodded range are six 12 x 14 movable shelters, that have a capacity of 150 pullets each. There are two 20 x 110 laying houses, with a 10 x 20 feed room in the center of each building and two 20 x 20 pens on each side of the feed rooms. The buildings are not fancy, but are well built. They are properly insulated and have a workable ventilation system. Each house will accommodate 500 laying Hens.

To begin operation, the Chicks are ordered from a well chosen Maryland—U. S. Approved Pullorum Clean plant, to be delivered on a specified date. The brooding pens are thoroughly disinfected. Heating units are operated for a test period. A good litter is spread on the floor, with several layers of paper placed on top for easy removal, during the first four days. One inch of feeding space per Chick and one gallon fount per 100 Chicks is provided for the first three weeks. From three to six weeks of age, the feeding space is doubled and the gallon waterers are replaced with three gallon founts. Low roosts are installed when the Chicks are three weeks old. At six to eight weeks of age, the pullets are separated from the ccokerels, vaccinated and moved to the range shelters. Ample waterers and feeder space are provided during the growing period.

When the pullets reach maturity and before they are in ten percent production, they are wormed, then moved into six of the 25 x 20 laying units. The other two units contain 250 select yearling Hens, to be retained through their second laying year. Wellbred R.O.P. males are used for mating and are put into the pens at this time.

The laying pens are equipped with sturdy built six foot wide dropping pits, with 2 x 2 roost bars rounded on top, running from the rear wall to center of pen. The entire pit is enclosed with a heavy grade wire netting, which permits circulation of clean air. Each pen has one automatic waterer, two ten hole galvanized nests, two eight foot feeders, one grit hopper, automatic lights and a deep warm litter on the floor.

After four to six weeks in the laying houses, the pullets and Hens are individually selected by a Maryland qualified selecting agent, for breed qualifications, body type, size, health and Egg production. During the same process, they are bloodtested for Pullorum disease, under the supervision of the Maryland Live Stock Sanitary Service Laboratory. Upon receiving the Laboratory report, the blood samples had produced a negative reaction, which gives the entire breeding unit a Maryland—U.S. Approved Pullorum Clean rating. The plant is then qualified to sell Hatching Eggs to any Hatchery, excepting those Hatcheries that have a higher rating than the breeding plant.

BRAMBLE
POULTRY FARM
CHESTERTOWN, MARYLAND
★ ★ ★ ★
BABY CHICKS
Breeding Flocks Md.-U.S. Approved & Pullorum Passed
S. C. WHITE LEGHORNS
NEW HAMPSHIRES
BARRED ROCKS
SEXED CHICKS
BRONZE POULTS
CATALOG

FACTORS AFFECTING HATCHABILITY OF EGGS

DR. C. S. SHAFFNER, Poultry Department, University of Maryland

The two important factors in determining the cost to the hatcheryman of each 100 chicks are first, the price he must pay for hatching eggs, and secondly, the hatchability of these eggs. Surveys have shown that the cost of hatching eggs usually makes up 50 to 60 percent of the total cost of producing chicks. On the basis of $1.00 per dozen for hatching eggs, the egg cost for producing 100 chicks is $9.38 if the hatchability is 85 percent. If hatchability is lowered to 75 percent this figure increases to $11.08. While the price paid for eggs is usually determined by factors beyond the control of the poultrymen, it is obvious that anything he can do toward improving hatchability will result in greater profits.

Some of the major factors governing the number of salable chicks per hundred eggs set include the genetics of the flock for hatchability, the feeding of the laying flock, the fertility of the eggs, handling of the eggs previous to setting and the actual running of the incubator.

Hatchability has long been known to be hereditary in nature. The genetic factors affecting hatchability are numerous and complicated. Some strains are known to carry lethal factors which are inherited on a single factor basis, hence the breeder can select on an individual basis for these particular characters, however, for general improvement of hatchability it is best to hatch from those families that are known to possess the good hatchability factors. It has been shown that a hen has the best hatchability in her first year of production. However, the decrease in subsequent years of production is not great and should not keep one from breeding from old hens of superior families.

Embryo mortality is not distributed over the entire incubation period as one would naturally expect but is concentrated in two quite definite peaks. The first peak occurs at about the third day of incubation and the second occurs about the eighteenth day of incubation. With high hatching lines, the early peak of mortality have been found to occur somewhat earlier in the incubation period, and the late period somewhat later. In order that each embryonic mortality and infertility are not to be confused the eggs that appear clear at the 18th day should be broken out to determine if they were actually infertile or if early embryonic death occured.

Nutrition

A variety of vitamins and minerals are known to be essential for normal growth and development of the chick embryo. A gross deficiency of these essentials in the hen's diet will of course stop egg production. A less serious deficiency may not stop egg production but will decrease hatchability and the chicks that do hatch will not be as strong and vigorous as those from hens having an adequate diet. It is well recognized that there is a "carry over" of some of the important vitamins from the hen's diet through the egg to the chick. For these reasons it is imperative that the breeding hens be fed rations that are fully adequate in vitamin A, vitamin D, riboflavin, pantothenic acid and biotin.

Handling Hatching Eggs

Prior to setting, hatching eggs should receive all of the attention necessary for securing high quality market eggs such as frequent gathering, production of clean eggs, cooling to below 60 degree F, and in addition should be turned occasion-

(Continued on Page 49)

There's an Arcady Feed and Feeding Program for every poultry enterprise . . . Arcady Chick Starter, Arcady Complete Broiler Ration, Arcady Growing, Laying and Breeder Mashes, Wonderfat pellets and station feeds and the new recuperative Arcady Poultry Boost'R . . . plus specialty feeds for turkey, duck and game bird raisers.

And from the same dependable source, Arcady offers a complete line of farm-proved livestock feeds for hogs, calves, dairy and beef cattle, dogs and small animals.

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ARCADY FARMS MILLING COMPANY
223 W. Jackson Blvd.
Chicago 6, Ill.

ally by raising one end of the case if they are to be kept for sometime. To secure the best hatches eggs should not be held longer than 7 - 10 days before setting and preferably only five days.

Incubation

About the most that can be said about the incubation itself is to set only clean, well shaped, sound shelled eggs and then follow the manufacturer's directions for operating the incubator. In most cases the manufacturers have run extensive tests with their particular type of system and are in a better position than anyone else to advise on its use.

SAVING FEED IN FEEDING LAYERS

1. Cull pullets and hens closely. This is no time to feed poor pullets or low producing hens. When egg production drops below 50%, it's time to cull.

2. Sell all roosters unless you produce hatching eggs. Roosters cause lower egg production, and fertile eggs spoil more rapidly than infertile eggs.

3. Use waste-proof feeders and hoppers. Fill trough hoppers only half to two-thirds full. Mash in the litter is nearly all wasted.

4. Feed skim milk. If you have skim milk reduce mash feeding for that portion of the day when milk is made available to the layers. Milk is an excellent feed saver when fed with grain. If silage(clean alfalfa, clover or soybean leaves are available, use them up to 8% or 10% of the ration.

5. Wage war on rats, mice, pigeons. A rat can eat and destroy up to 150 pounds of feed a year, enough to feed two laying hens producing 140 eggs each, according to N. C. State College estimates.

6. Use only high laying strains free of broodiness. Only efficient layers can be expected to give a profit over present feed costs.

7. Buy sexed pullet chicks. This means brooding fewer chicks and raising better pullets with the equipment and feed available.

8. Eradicate lice and mites. Use anthracene oil on roosts and DDT on birds each fall and spring. Lousy or mite infested birds eat up profits.

9. Seed ranges for pullets. A good grass or legume range may save up to 10% or 15% on feed to raise pullets.

10. Study price shifts. Grain and mash mixtures can be shifted without upsetting production, in taking advantage of lower priced feed items.

Wade H. Rice, Poultry Dept., University of Maryland.

Culling the Laying Flock May Pay as High as $5 per Hour — On rainy days when other work is at a standstill, culling the laying flock may mean removing 20% - 30% of the hens through laying for the summer, say Cornell University poultry workers. This saving of feed per 100 birds, will amount to from $5-$7 per month, and no eggs will be lost. If you do not cull daily, try culling the flock one rainy day each month.

R. Robinson, Inc.

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  (Backed by research — proved by use)
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  Warner Brooder and Showalter Wood burners
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  We maintain a poultry health service
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- **SOCONY VACUUM MOBIL HEAT**
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UNDERFLOOR RADIANT HEAT FOR BROODING

by GEORGE D. QUIGLEY

The principal advantage of radiant heating to poultrymen are; the substantial savings in fuel cost; thermostatic control of temperature resulting from a central heating plant; the pronounced reduction of fire hazard; reduced labor demands, reduced litter costs; the virtual elimination of crowding; and considerable help in the always-present fight against coccidiosis. There is also the intangible advantage of having no stoves or other large floor obstructions. One operator has reported that savings in fuel alone will result in the cancellation of his capital investment in from ten to twelve broods.

Hot water under forced circulation is the method of radiant heating in use today. Virtually all heating pipes are imbedded in concrete of the floor, although they can also be used in a wooden floor with equal satisfaction. The greatest efficiency is obtained when the pipes are located in the floor, and there is no tendency at present to locate heating pipes in the walls, and the system would be most unsatisfactory if they were located in the ceiling.

Pipes used are typically ¾, 1, or 1¼ inch, black only, and there seems to be no technical reason for preferance for either steel or wrought iron pipe, the only advantage of the latter being its property of being cut and bent more easily. The coefficient of expansion of steel pipe, wrought iron pipe, and concrete are given below for the temperature range 32 degree F to 392 degree F:

Wrought Steel Pipe	0.0000068
Wrought Iron Pipe	0.0000072
1; 1½: 3 Concrete	0.0000068

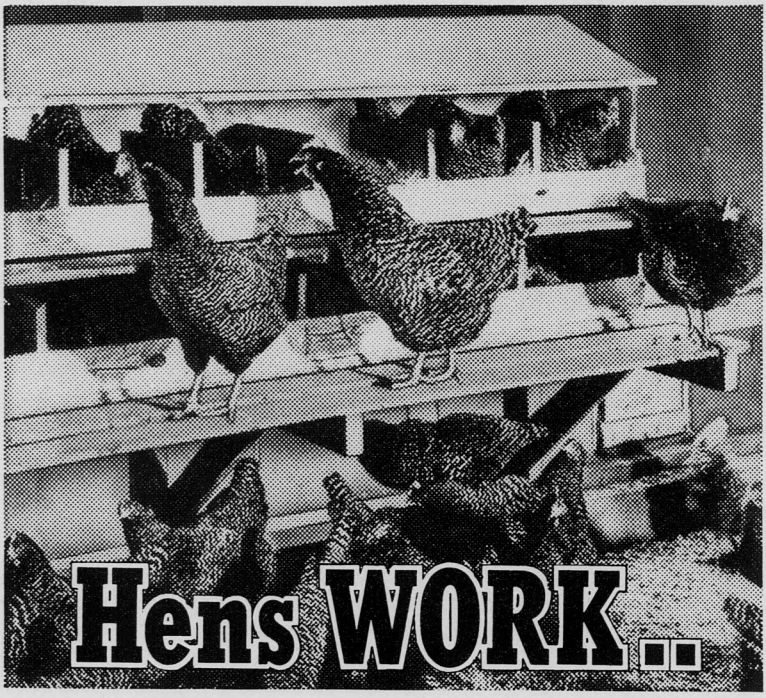
Copper tubing would be equally satisfactory but has not been used because of lack of availability.

Manufacturers of pipe approve either threaded joints or welded joints, but in practice, welded joints are almost universally used. Pipe is available to some extent which is constructed especially for welding of joints, and which is provided with a special slip joint which is welded firmly in place.

The equipment required is a boiler having a capacity at least twice the radiating surface of the pipes, an adjustable aquastat on the boiler to maintain water temperature at from 120 degree to 180 degree, one or more room thermostats located 12" to 18" above the floor and which are used to control the water circulators, the electric motor-driven water circulators, and of course either an oil burner, or a coal stoker if automatic heating is desired. The system should be vented at its highest point to allow for the escape of air, should have a drain cock at some low point to permit draining the entire system, and an expansion tank or a substitute for same to allow for the building up of internal pressure.

While there is a heat loss of 25% to 33 1-3% downward into the soil, there appears to be no practical method to reduce this loss except to fill of dry sand or clean gravel. Cinders are too corrosive to allow them to be in contact with pipe. Insulation to prevent lateral movement of heat outward through the foundation is probably a good investment. For this purpose ½ inch or more of insulation board

(Continued on Page 53)



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is placed against the inside of the foundation wall before pouring the floor slab. A termite proof insulating board maybe placed under pipes or ground floors to reduce downward flow of heat if the operator so desires.

The design of the system is not a very serious problem, provided that good hydraulic circulation is obtained by a pump big enough for the job, and by not using too long runs to force water through. The best hydraulic characteristics are obtained by the grid system which is adapted to larger areas as brooder houses. The continuous coil is adapted to smaller areas, but if an operator desires to care for different broods at the same time, a combination grid and coil system is used, placing the feeder lines around the outside of the building and using separate circulators to heat coils attached to the feeders and return line. One inch pipes laid 12 inches on centers seems to be about average. A person having considerably ability and knowledge of boiler capacities and pump sizes should be consulted before starting an installation.

The operator of a forced circulation system would be quite embrassed if a power failure occured during cold weather. This eventuality must be anticipated. A small auxiliary generator to operate the circulator motors or oil burner should be considered. Those persons who install a coal fired boiler either hand or stoker fed, should consider the placement of the hot supply pipe above grade at the rear of the house and the return main below floor level in the usual manner. The exposed hot line would represent radiation above the birds which is satisfactory.

The cost of radiant heating installations is rather high. Early reports have indicated a cost of between 35 cents and 90 cents per square foot of floor area. Possibly as we learn to simplify the installations these figures may be reduced. Since much of the cost is represented by the boiler, stoker, controls, and circulation pumps, it looks almost prohibitive for the small operator.

Since the baby chick provided with radiant heat is literally being bombarded by heat rays from all sides, he is perfectly comfortable at a temperature of around 80 degrees in place of the 95 degrees used under hovers. The construction, the height of the brooder houses, and even the interior color of the building will have a slight effect upon the temperature at which chicks will be comfortable. Accordingly every operator will have to adjust this figure for his own conditions.

Underfloor radiant heating is not a panacea for coccidiosis in spite of the bone dry conditions early in the brooding period. In fact, some operators have found that the delay in the onset of coccidiosis may actually be detrimental. It seems clear, however, that radiant heat as a means of preventing crowding, keeping the litter dry, and the birds comfortable, will be of definite assistance in our most common poultry disease.

Marketing Quality Eggs Pays Dividends — Producing quality eggs and selling them on a graded basis can add to your income at the rate of about 67c per hen per year according to studies at the Missouri College of Agriculture. This involves:— 1. Gathering three times a day in hot weather. 2. Using wire baskets for gathering and cooling. 3. Casing the eggs in the morning after being cooled. 4. Holding in a cool moist place (cellar is best). 5. Cleaning all dirty eggs. 6. Selling twice a week.

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Can any money be made feeding $5 feed to pullets costing $3 each to grow? — That depends on the following: 1. Price received for eggs. 2. Number of eggs per hen. 3. Mortality in the laying flock. You have to produce quality eggs and sell on a grade basis, get high egg yields per bird, and keep mortality low through sound husbandry practices, especially in housing, feeding, and sanitation if you expect to make any money producing eggs under the present and immediate future level of price.

Feeding Pellets — A noon feeding of pellets is reported by many poultrymen as aiding in keeping up the body weight of layers, and giving slightly better production than when no pellets are fed.

Family Selection Best Basis for Breeding Progress — According to the University of California, the percentage of the total improvement in egg production based on progeny testing of the Station flock, was secured through the selection of birds as to their relationship as follows: — Sire's sisters record (sire's family) 19%; sire's daughters (sire's progeny test) 25%; Dam's production record 22%; Dam's sisters (dam's family) 27%; Dam's daughters (dam's progeny test) 7%. From this it can be seen that the dam's record is of relatively lower value than that of sire's daughters, and dam's sisters. If poultry breeders will take all 5 family performances into consideration in selecting breeders on the family basis, much more rapid progress will be made as the figures indicate. The above figures were for White Leghorns.

Management & Marketing — Marketing is a great topic for discussion these days. It is important, but many poultrymen fail to realize that good management of the factors on their farms, directly under their control, will make them more money than they ever made on the best market they ever saw.

Nesting Materials — Of the common materials used for nesting, shavings are less likely to stain the eggs or adhere to freshly laid eggs. Excelsior is a second choice, and straw a poor third.

The 32 cooperative egg marketing associations of the Northeastern area, handle an average of about 60,000 cases of eggs weekly.

Pullorum Disease infection is at the lowest incidence in Maryland poultry breeding flocks since testing was started in 1923 by the State Livestock Sanitary Service.

ALL-PULLET FLOCKS MORE PROFITABLE
SUCCESSFUL POULTRY MANAGEMENT METHODS

by GEO. H. VANDERMAST — R. 14 Baltimore, 20 Md.

The methods of management of a poultry venture, determine its success or failure.

With the best of building, stock and feed, success cannot be attained with poultry, unless correct management methods are practiced.

Much helpful information has been written about various poultry management problems. This article is devoted to the subject of feeding for egg production. There are a variety of methods of feeding poultry, of which the following are the most commonly used. The all mash feeding plan, which requires no whole grain; the practice of keeping both grain and mash before the birds at all times; and the mash and grain plan, which is most widely used. The first two are the most simple to follow. The mash and grain plan of feeding requires some skill, if desired results are to be obtained; more skill than the average poultry man is aware of.

As a result of experimental work in feeding for egg production, it has been found that a hen's total food consumed, should contain about 15% protein to enable her to produce at her best. When the protein content of her diet falls below 14%, her efficiency as an egg producer, is impaired.

According to these findings, layers should consume approximately half mash and half grains. For instance, mash mixtures usually contain 20% protein; whole grains 10% protein. A diet of half mash and half grain of these percentages would contain the required 15% protein.

The proportions of grain and mash fed, should vary with the seasons. In winter some of the food consumed by the hen is used to furnish body heat, therefore, slightly more grain should be fed, during colder weather.

From the above explanation, it is easily understood that if you feed much more grain than mash, the protein content of the hen's diet, is decreased. As grain feeding increases, the protein content of the diet decreases; the more grain the bird eats, the less mash she will consume.

The ideas expressed so far in this article seem simple enough. For instance, when a flock of hens are in full lay or nearly so, and half mash and half grain are fed, all the birds are eating about the same amount of food and then each bird is receiving a 15% protein diet.

But, what happens when a large part of the flock is moulting or out of production? Hens not in production, require only about three-fourths as much food, as a laying flock. When this condition exists, the non-layers eat very little mash and consume larger amounts of grains. Then the non-layers are eating grain that the layers should have and the diet of the entire flock, is thrown out of balance. Layers and non-producers should never be left long in the same pen.

To meet the keen competition that lies in the future, most flocks will have to produce more eggs per pound of grain consumed.

NINE GOOD WAYS TO SPREAD POULTRY DISEASES:

1. Bringing buyers, poultry crates, etc. on the premises where other lots of birds are being kept.
2. Indiscriminate use of market crates with no cleaning or disinfection.
3. Bringing visitors into brooder or laying houses.
4. Moving birds from one farm to another, especially males, or securing pullets from a broiler plant for layers without close inspection and quarantine in isolation.
5. Disposal of dead birds in woods or fields for dogs to scatter in the community.
6. Bringing of birds, for slaughter or otherwise, to a hatchery where chicks are sold.
7. Buying chicks from sources not known to be free of pullorum infection.
8. Shipment of adult birds and chicks together in common carriers.
9. Return of birds from shows or egg laying contests without first quarantining for 10 days in isolation.

(Dept. of Veterinary Science, Mass. State College

The recent trend towards fewer chicken and turkey flocks, but larger ones, is indicative of the importance of efficient use of capital and labor in the poultry business. Better business methods in all phases of production and marketing is the poultryman's future hope.

Grading pullets as to maturity when housing them, is important in management for high egg production. The more uniform a given room or pen full of pullets, the more effective their feeding and management can be made. This means grading each year's pullets into several lots, depending upon the number of birds involved, as they are housed in laying quarters. Pullets of different degrees of maturity, size and vigor in the same flock, makes efficient management out of the question. Grade them into uniform lots, and the problem is simplified even for the slower birds.

THE STARTING POINT

by James M. Gwin

When profit margins narrow and poultrymen find themselves working for less than the average unskilled laborer, they are often forced to give serious thought to means of improving their conditions. Normally, there are two approaches to this problem: the first is to increase production efficiency by such means as adjusting flock size to a more economical unit; by using feed that produces the highest net returns; or by other better management methods.

The second approach is to investigate markets to determine if their product is being sold to their greatest advantage. It is useless for producers of low quality product to hope to find premium markets — they simply do not exist. The producers of low quality who search for them are wasting time that should be spent on ways of improving their product, which is the step that absolutely must precede an attempt to obtain premium market prices.

The starting point for most producers who question the merit of their present market outlet is for them to make a comparison of their present market price with the amount being paid for product of similar quality in other sections of the state and in other areas of the country.

In this connection, it is important that poultrymen in a surplus producing area make a reasonable allowance for the extra-handling and transportation costs. When results show that the prices are consistently lower, then other marketing methods should be investigated.

When producers take steps that definitely improve the quality of their product, they must follow up this effort by forefully reminding their present outlet of this action. If their efforts are not rewarded by higher returns, they should investigate market outlets that are definitely in position to pay premiums for the quality they are now in position to produce.

If the results of the individual producer's investigation indicate that the majority of the poultrymen in the area are operating at a disadvantage from a market point of view, it may be well to consider the possibility of establishing a cooperative marketing agency in the area. With problems of this nature, it is often an advantage to work through the local county agent, who in turn may secure additional specialized help trained along this particular line. If the facts indicate the possibility of establishing a marketing cooperative that will definitely help hte industry, assistance can be obtained through many sources that will go far toward making the original plan a reality. Thus, through the efforts of one producer, marketing agencies will have been established that will have ultimately helped the producer, his neighbors, and his community.

In using the built-up litter, start early in the fall and build up the litter to from 6-8 inches before cold weather. An inch or so of dry sand as a base is an aid in keeping the litter dry and porous, whether the litter is limed later or not.

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BUILT-UP LITTER AND HYDRATED LIME FOR DRYNESS

MORLEY A. JULL, University of Maryland

Damp litter has long been a serious problem in many laying houses during the winter months. It tends to increase the number of dirty eggs and makes proper feeding of scratch grain more difficult.

The "built-up" litter system is the most satisfactory way of maintaining dry litter and reducing labor in removing the litter. When the pullets are housed, about two inches of dry litter is placed in the house and from time to time enough litter is added to keep the top layer dry until the litter is about 8 inches deep.

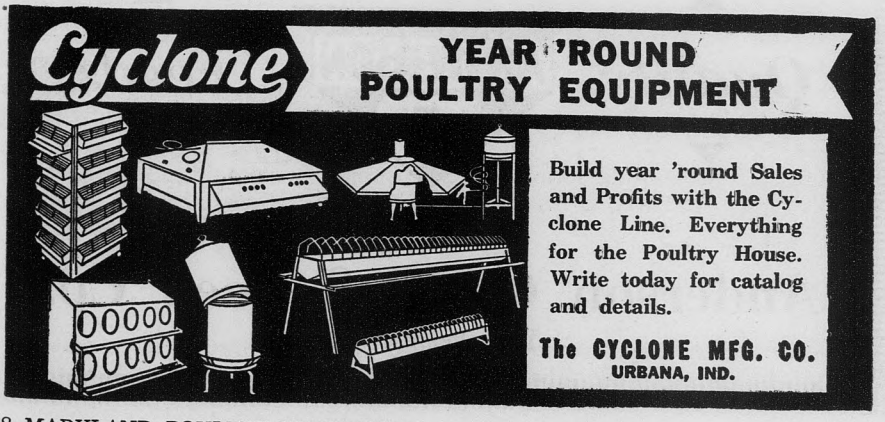
Applying hydrated lime to the litter at the proper time in right amounts will keep the litter in dry condition all winter.

The first application of hydrated lime should be at the rate of about 20 pounds per 100 square feet of floor space. Stir the hydrated lime thoroughly with the litter. Add one to two inches of new litter at intervals, depending on the weather and the condition of the litter. Additional hydrated lime should be added about every three weeks and stirred thoroughly with the litter, using about two pounds per 100 square feet.

The hydrated lime reduces the stickiness of litter particles so that the litter is less lumpy and does not tend to become caked and matted down. Use hydrated lime rather than quick lime because quick lime is more dangerous to the birds and has been reported to have caused fires.

By using the "built-up" litter system and applying hydrated lime properly the laying house does not need to be cleaned out for several months. Much labor is thus saved.

According to various workers, sulfa drugs are effective against Coccidiosis, especially the cecal type. However, the toxic effect of sulfa drugs upon chickens makes it inadvisable to use it for more than a day or two at a time, and then in relatively small amounts. Cornell, U.S.D.A. and Penn. investigators have found that using as much as 1% in the mash, or feeding smaller percentages for a week or more, produces a definite toxic effect in chickens.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RECENT DEVELOPMENTS IN BROILER MANAGEMENT

C. S. GASSAWAY — Salisbury, Md.

Recently a number of articles have appeared on radiant heat in our leading poultry publications, with which articles we are in full agreement, except the fact that the majority state there is a great saving in fuel. We do not find this to be true on our experimental farm. I believe if radiant heat is operated properly, so as to control Coccidiosis, we must continuously operate this system throughout the entire brooding period. Therefore, there will be very little, if any, saving in fuel.

On the other hand, we do find a great advantage which they do not mention in these different articles, viz: the saving of feed in the production of a pound of meat. Dr. H. W. Titus of the Limestone Products Corporation, states that with the Connecticut Broiler Formula, they were able to produce broilers using at the rate of three and one-half lbs. of feed per pound of meat. We produced in our plant (which is heated with radiant heat) a pound of meat on just a trifle over three pounds of feed. This was probably due to the fact that these birds were disease free, whereas the check pens did not have Coccidiosis. We have many diseases which take a great toll, but Coccidiosis is still the broiler growers' Enemy No. 1.

There are many advantages in brooding with radiant heat, some of which are: saving in labor; litter; feed; lower mortality; lower rate of insurance; more rapid growth; and increasing the capacity of your house. We find that these savings will amount to an average of one hundred dollars per thousand, extra profit per brood. When we stop to consider these advantages, I believe you will agree that radiant heat is unquestionably the brooding system of tomorrow. I believe that disease is the broiler growers' greatest handicap, and that diseases are filth-born. Therefore, whether it be the use of radiant heat, an improved feeder, or a new type of waterer to help bring about more sanitary conditions in broiler production, the greater are our chances for success.

We are now using at our experimental farm, the Klen-way waterer. It is a great labor saving device, requiring no washing at any time, and still each swallow of water the chicks take is absolutely clean. No dirt, filth or contamination, and it is adjustable all the way from baby chicks to grown turkeys. Poultry will drink more running water than they will from an open pan. The more they drink, the more rapidly they grow, which adds up to more profit.

The Kleen-way feeder is almost fool proof. If properly set, the birds waste no feed. This in itself is a great saving, especially at the present high cost of feed. Even after the feed has remained in this feeder for eight to ten days, it is almost as clean as when removed from the bag.

With a combination of these three new major improvements, an individual can double the number of birds he can take care of and may rightfully expect healthier and more profitable birds.

A recent turkey survey (1946) in Illinois, showed that feed costs constituted 68% of the cost of production. Poult cost was 13%, and labor 8%, the three accounting for 89% of production costs of birds averaging 18.5 lbs. for both sexes.

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Springfield, Ohio

POULTRY SAVE-FEED PROGRAM

Morley A. Jull

1. Cull laying flocks regularly and rigidly, and thus avoid wasting feed on "boarders".
2. Cull yearling hens more severely than pullets; the yearlings lay less and eat more feed per dozen eggs produced.
3. Farmers and commercial egg producers might well order pullet chicks only.
4. Egg producers should buy early-hatched chicks; they grow faster and usually have less mortality, thus saving feed.
5. Buy chicks or poults from breeders or hatcheries whose flocks are free of pullorum disease to reduce mortality in growing stock and thus save feed.
6. Egg producers and broiler producers should buy the best quality of chicks available; they grow faster on less feed per pound of gain.
7. Egg and broiler producers and turkey growers should avoid feed wastage by not filling mash hoppers over two-thirds full at any time.
8. Turkey growers should avoid feed wastage on range by using wind-proof hoppers or by feeding pellets.
9. Egg producers and turkey growers should make every possible use of good pastures.
10. Farmers should consider growing more cereal grains and develop better ranges for growing chickens and poults.

Note: Useful information for poultrymen planning to carry out the suggestions given above may be secured by writing to the Poultry Department of the University of Maryland at College Park for any of the following four bulletins:

Culling For Most Profitable Production.

Good Pastures For Poultry

Feeds and Feeding Practices For Chickens

Raising Turkeys For Market

Wood ashes with which DDT dust is mixed (1 to 10) and placed in a dusting box in one corner of each laying house pen, is used by some poultrymen to keep lice under control.

Underfloor radiant heat for brooding and broiler raising is a new innovation with considerable promise for the future. However, it is so new that comparatively little is known about it as yet. Future experience and experimentation will doubtless greatly reduce costs of installations and increase it's efficiency as well as practical application in the industry.

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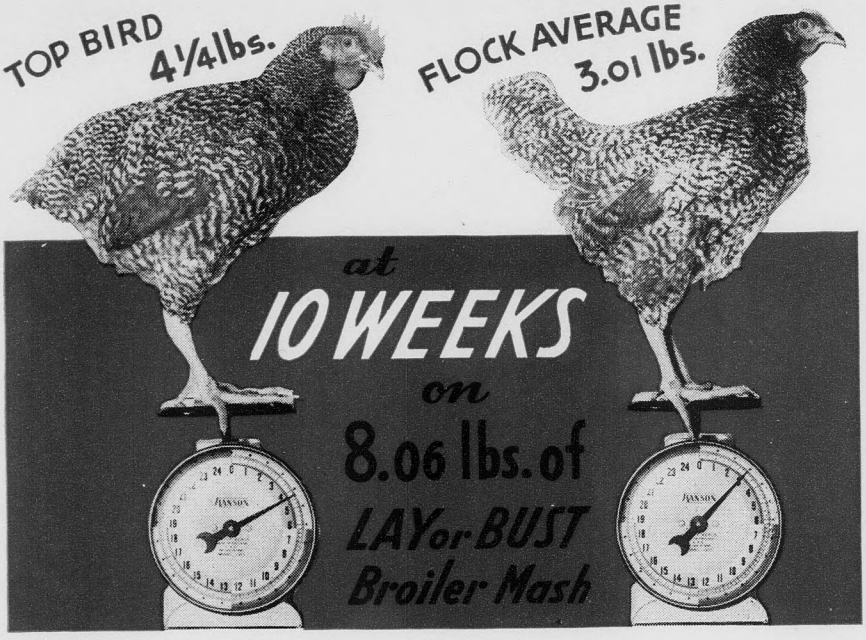

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Such excellent results are no everyday occurrence on a commercial scale. It can be done with quality stock under good management. It's a "test" and proof of the high feeding value of Lay or Bust Broiler Mash.

We have many letters from commercial producers saying, "2¼ lbs. in 8 weeks" . . . "3 to 3½ lbs. at 11 weeks" . . . "2 lbs. in 6 weeks" . . . "1500 mixed birds, 4¼ lbs. av. in 15 weeks 3 days" . . . "1500 cockerels, 4½ lbs. av. in 13 weeks" . . . "3200 av. 4 lbs. at 13 weeks."

As one poultryman wrote, "Cut-price rations may fool the poultryman but not the chicken." When we make Lay or Bust Broiler Mash, we fortify the formula to give you extra weight at market time.

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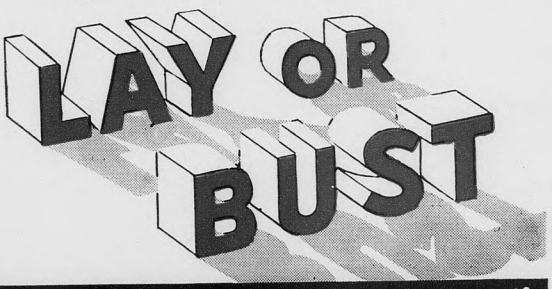

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